SPECIAL EDITION: ULTIMATE GUIDE TO DIRT RIDING GEAR

CYCLE GUIDE

SPECIAL EDITION

JULY 1980 $1.50

47457

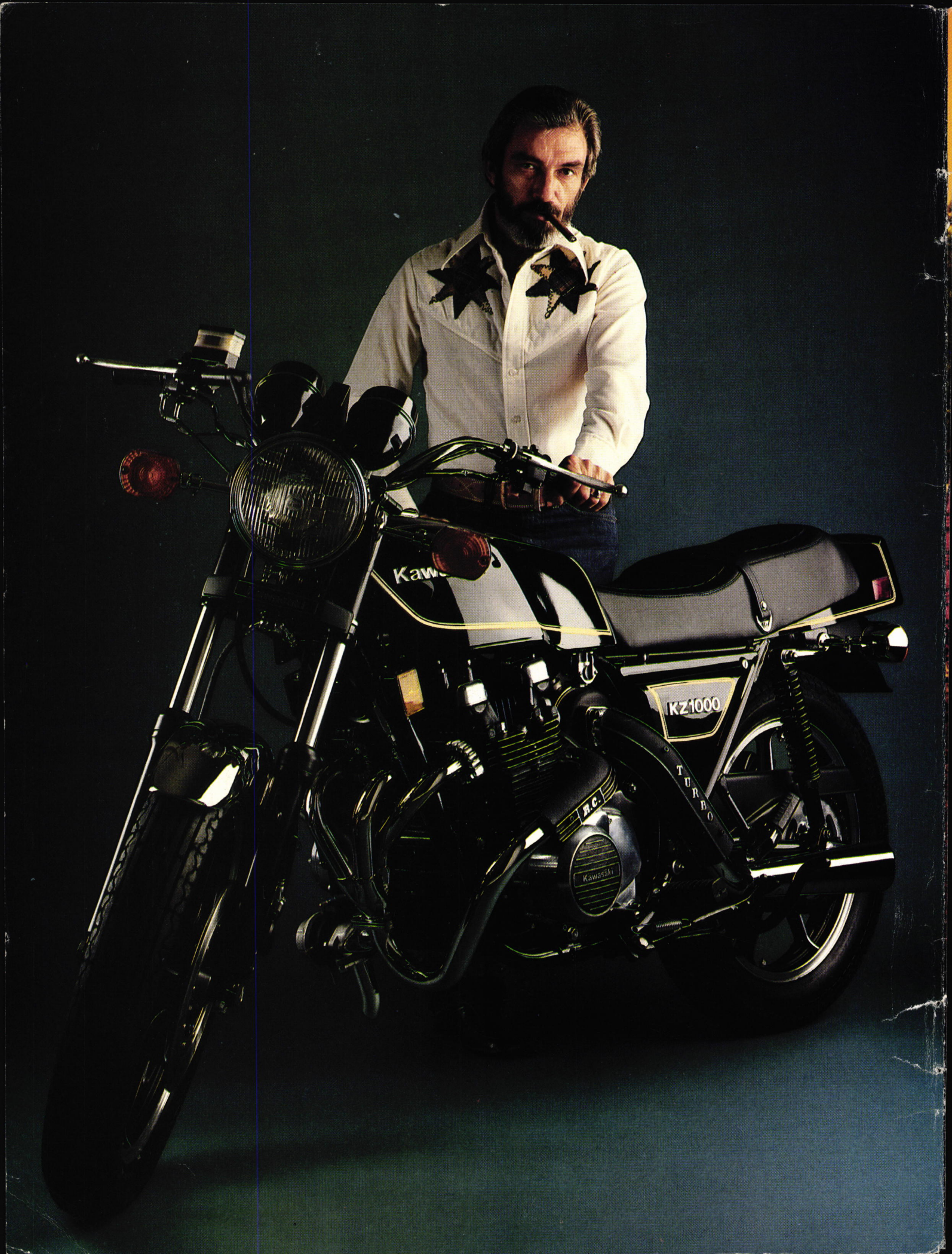
COMPARISON:

Kawasaki 420 vs. Yamaha 465

L0876603600MR82
LARRY LAWRENCE
5341 NORCROFT DR
INDIANAPOLIS IN 46241
A14 CY
163

Title Match For The Heavyweight Crown

0 07
71896 47457


KZ1000
TURBO
M.C.
Kawasaki

IT'S ABOUT TIME!

I'm Russ Collins. I've been racing for almost 25 years—racing, and dealing horsepower.

And right now, I don't know a better way of getting raw power than turbocharging. Which is why we figure it's about time somebody did it right.

That's why we're offering the best motorcycle turbo unit on the market today. The only one that's guaranteed to perform. The same setup we used to build our record-setting street class drag bike: 9.33 sec./153 MPH.*

The best. And here's why.

FIRST TRUE TURBO-CARB

We've got over a year of cooperative R&D in this R.C. Power Master carburetor, and it's built to our exclusive specs. If there's a more advanced turbo carburetor around, it's still in some designer's head.

Check it out:

- King-size float bowl to eliminate fuel starvation.
- Fully adjustable accelerator pump.
- Adjustable cold start enriching circuit.
- Exclusive R.C.. Power Jet automatically compensates for boost.
- Increased MPG potential and fuel efficiency.
- No more slow warmup.
- No midrange flat spot.
- No low-end stumble.
- No detonation.

This is the first real turbocarb. And it'll improve performance, mileage and range on any turbo setup.

ONLY TRUE WASTEGATE

The key to efficiency in a turbocharger is the wastegate. That's why we don't understand turbo builders who use a crude pop-off valve you could probably make for yourself.

What you get with a homemade pop-off valve is throttle lag. And top-end malfunction.

What you get with the R.C. Rajay Turbo is the consistency and flexibility of a true manifold-sensing diaphragm wastegate. The same basic design used on Indy cars.

With this wastegate—and our turbo-carburetor—once your bike is set up, you just dial in as much boost as you want—without any carburetor adjustments.

LOW-END BOOST

We designed an all-new 4-into-1 exhaust system to maximize the R.C. Turbo. Tuned, small diameter headpipes accelerate exhaust gas for higher turbo impeller speeds at low RPM. For a wider powerband that's a lot easier to live with out there on the street.

Most turbos won't give you an ounce of boost below 6000 RPM. But when you reach for power with our setup, you've got it. All of it. When you need it. Boost kicks in as low as 3000 RPM. Where you can use it—without violating noise standards.

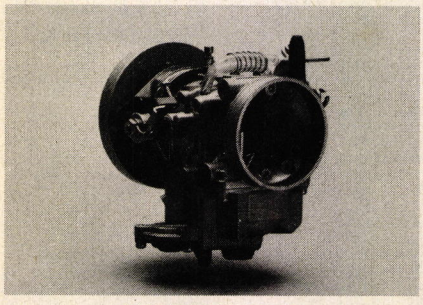
At Team R.C., we figure if you're not blowin' 'em off, you're just suckin' wind. Second place is for the other guys. That's why we don't settle for second best. On anything.

If you're ready to straddle turbo-power, this is the no-compromise setup. Compatible with the full range of race-proven R.C. high performance parts.

Whether it's street, touring or racing, get the ultimate in turbo-power. Join Team R.C.

R. C. Turbocharger kit—$1425.00

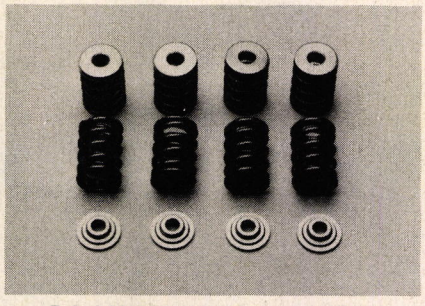
*Current IDBA C Modified Turbo Class E.T. record.



R.C. TURBO-CARB

With exclusive R.C. Power Jet. Prevents detonation, fuel starvation, slow warmup. Automatic boost compensation. Fully adjustable. Compatible with all turbos.

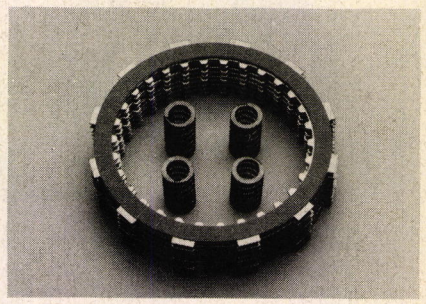
R. C. Part #1510—$229.00



R.C. COMPETITION VALVE SPRINGS

Hard-chromed, aircraft quality silicone wire. Shot-peened and tempered for fatigue resistance. Provides outstanding high rpm valve control.

R. C. Kits—$57.00 to $62.00 (CBX—$132.35)



R.C. RACING CLUTCHES

Bonded alloy plates, silicone wire springs, treated steel plates to handle turbo-power in Kawasakis, Suzukis, and Hondas.

R. C. Kits—$82.95 to $87.25

Intended for competition use only on motorcycles manufactured after January 1, 1978. R.C. Turbo available for Kawasaki Z-1 and KZ1000, Suzuki GS1000.

ORDER TOLL FREE
(800) 421-1878

DIAL (213) 327-6858 FROM CALIFORNIA

VISA, MASTERCHARGE ACCEPTED

RC ENGINEERING

OUR SKILL IS A MATTER OF RECORD

R.C. ENGINEERING • 13300 Estrella Ave. • Gardena, CA 90248

Phantom Rider

DISCOUNT MOTORCYCLE ACCESSORIES

Save Money
Save Gas

Shop by Phone or Mail

ORDER TOLL FREE 1-800-854-3110

In California, call 1-800-432-7433

Same day shipping on most phone orders charged to BankAmericard/Visa, Master Charge or American Express credit cards. Catalogs sent free with all orders.

TIRE ACCESSORIES

Breezer tire tool eliminates pinched tubes and scratched rims **$7.46**

Breezer tire tool combo — Breezer plus 9½"L x 1¼"W hi-tensile alum. tool **$9.90**

ACP Puncture Sealant-Heavy Duty Formula for off road riders. 16 oz. bottle for two tires **$2.62**

Dial tire gauge — 0-60 psi, in 1 lb increments **$6.88**

Tire mounting lubricant — 13 oz aerosol can **$2.86**

DELUXE MX PANTS

In heavy-duty nylon w/nylon mesh lining. Spandex elastic insert for more comfortable fit, padded hips, removable knee cups, belt w/ Velcro closure. Double stitched seams. Machine washable. In waist sizes 28" thru 38". Specify colors: gold w/black, red w/wht and blue, royal blue w/yellow trim. Satisfaction guaranteed or money gladly refunded. Give 2nd color choice **$54.55**

GOGGLES

Scott #59 — clear Lexan scratch-resistant lens. Red or yellow frame. Reg. $17.95 . . . . . **$12.95**

Scott #55 — clear acetate lens, fits over prescription glasses. Blue frame only. Reg. $18.95 . . . . . **$13.95**

Scott #53 — clear acetate lens. Whi, blu, or orange frame. Reg. $15.49 . . . . . **$10.95**

Scott faceguard — fits **all** Scott goggles. In whi, blue, red, yel, or orange. Reg. $6.95 . . . . . **$5.49**

SPECIAL! Save an extra 10% on Scott #53 goggles/faceguard combination. Goggles in frame colors whi, blue, or orange. Faceguards in whi, blue, red, yel, or orange. Give 2nd color choice. Reg. $22.44 . . . . . **$14.69**

BELL HELMETS

New for 1980 — the TourStar and Magnum III. D.O.T. approved. Snell 75 approved (except TourStar & R-T.) Give 2nd color choice.

TourStar — whi, blk, red, met red, met maroon, 6-7/8 thru 7-5/8. Reg. $89.95 . . . . . **$79.68**

Star II — whi, blk, silv. 6-7/8 thru 7-5/8. Reg. $119.95 . . . . . **$88.94**

Moto III — whi, red, yel, blue. Junior 6-3/8 thru 6-3/4. Adult 6-7/8 thru 7-5/8. Reg. $114.95 . . . . . **$85.67**

Magnum III — whi, red, yel, blue. Adult 6-7/8 thru 7-3/4. Junior 6-3/4. Reg. $79.95 . . . . . **$69.42**

Magnum II — whi, blk, silv. Adult 6-7/8 thru 7-5/8. Junior 6-3/8 thru 6-3/4. Reg. $89.95 . . . . . **$74.42**

R-T — whi, blk, red, met blue, met maroon. 6-3/8 thru 7-3/4. Reg. $62.95 . . . . . **$49.61**

VETTER FAIRINGS

Windjammer IV with standard height 21" windshield, tonneau covers, leading edge lights, adj. headlamp and blk/gld/blk striping. In black, silver, or white. Reg. $405.00 **$305.00 + $42.71** for complete hardware kit.

Quicksilver — with standard height 21" or 17" sport-size windshield, soft tonneau covers, black edge trim, turn signals and rectangular headlight. In black, silver, or white. Reg. $205.00 . . . . . **$149.00 + $28.74** for complete hardware kit. (Hon CB750 and CX500 cust/deluxe kits — **$39.86).**

Shipped freight collect. Vetter luggage and Pacifico Classic fairings also available. Call for prices.

SIMPSON HELMETS

Lightweight Kevlar 49 shell. Snell 75/D.O.T. approved.

#30RXM-1. Blk, silv, red, yel. 6-7/8 thru 7-3/4. Reg. $195.00 . . **$179.40**

#60 Full Coverage. Blk, silv. 6-7/8 thru 7-3/4. Reg. $124.00 . . . **$98.62**

#50 Motocross. Blk, red, yel. 6-7/8 thru 7-3/4. Reg. $124.00 . . . **$98.62**

Shoei ZG/S-12/S-27/Nava 2 helmets also available. Call for prices.

MUSTANG TOURING BOOTS

Unbelievably comfortable and light (only 3 lbs/pr). In genuine, black leather with inside covered zipper and elastic — so dressy looking you can wear them to and at work! Calf-height w/ 3/4" hardwearing rubber sole w/steel shank. Lined foot area. Scuff pads on toe caps. D-width. Full sizes 6 thru 13. Satisfaction guaranteed, or money gladly refunded. Reg. $69.95 . . . . . **$54.95**

BELL REPLACEMENT SHIELDS

Star II flip-shield, clear or smoke. Reg. $4.50 . . . . . **$2.92**

Star II Lexan scratch-resistant shield. Clear or green. Reg. $8.50 . . . **$7.46**

5-snap flat shield, fits and converts **all** Bell open face helmets to full face coverage. In clear or smoke. Reg. $3.95 . . . . . **$2.49**

Bell Fog Free, 8 oz spray bottle. Reg. $3.50 . . . . . **$2.98**

SCOTT MOTOCROSS BOOTS

Scott — The all-plastic molded MX boot with soft foam liners. In even sizes 7 thru 13. Liners included. Reg. $195.00 . . . . . **$159.46**

HI-POINT BOOTS

In top quality leather with stainless steel shinguard and 5 quick-release straps. Smooth MX or rough (cleated) enduro sole. In half sizes 5 thru 13. Reg. $119.95 . . . . . **$105.00**

Note: As Hi-Point boots run large — order ½ size SMALLER than dress shoe.

SHOCKS AND SPRINGS

Mulholland Force I Touring air/gas shocks — New. Designed specifically for motorcycles, a pre-charged gas shock with the comfort of an air spring and the fail-safe reliability of a mechanical spring. Preload and rate independently adjustable to the ultimate in handling and comfort. For most street bikes. Reg. $190.00/pr. . . . . **$153.46/pr.**

Mulholland rebuildable SS (street) and MX shocks — in 11¾", 12¼", 13", 13½" eye-to-eye lengths. Reg. $65.95 . . . . . **$46.50/pr.**

Mulholland springs —
Single rate . . . . . **$15.95/pr.**
Progressive (dual) rate . . **$15.95/pr.**
Chrome springs, all . . . . **$24.95/pr.**
S&W shocks also available — call for applications and prices.

DRY RIDER RAIN WEAR

Stay dry in summer storms! 100% waterproof, styled to wear over street clothing. In yellow only. Specify sizes: S, M, L, XL.

DR121 2pce suit, PVC **$29.20**
DR275 1pce suit, nylon **$48.96**
DR119 2pce, PVC/nylon/PVC . **$37.80**
#1 Phantom, 2pce suit, PVC . **$20.46**
#2 Phantom, 2pce suit, in rubberized nylon **$35.55**

OIL COOLERS

Derale — world's finest oil cooler w/automatic temperature control valve. Fits most bikes **$69.56**

Lockhart's new #600 automatic, #700 hi-performance and #500 std oil cooler kits available — call for applications and prices.

EXHAUST SYSTEMS

Save up to 30% on high performance name brand exhaust systems. For increased gas mileage and up to 20% power increase. In show chrome.

HON CB/CL/SL350 68-73; 2 into 1 (Hooker) Reg. $128.75 . . . . **$87.79**
HON CB750 69-76, 4 into 1 (Hooker) Reg. $188.00 . . . . . **$128.32**
KAW KZ900/1000, all, 4 into 1 (Kerker), Reg. $206.00 . . . **$179.95**
SUZ GS750, all, 4 into 1 (RC Engineering) Reg. $199.95 . **$178.81**
YAM RD350/400, thru 78, 2 into 2, in black (Bassani) Reg. $180.00 . . . . . **$148.72**
YAM XS650 70-79, 2 into 1 (Hooker), Reg. $128.75 . . . . . **$87.79**
YAM XS1100STD + spec., all, 4 into 1 (Jardine) Reg. $199.95 . . **$163.20**
Call for more applications and prices.

H-4 QUARTZ IODINE LIGHTS

Obtain tremendous improvement in lighting at lowest possible cost. Direct plug-in insert. Replaces existing sealed beam unit. High/low beam. H-4 bulb included.

7" or 6.2" **$22.47**
5-3/4" **$20.69**
Rectangular 4"x6½" **$24.26**
Replacement H-4 12V60/55W bulb **$7.69**

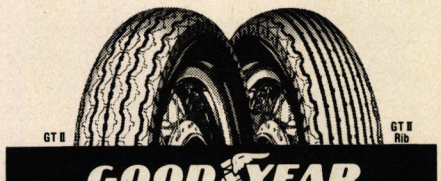
Continental

Superior handling qualities and high above-average mileage make the **K112** (rear) and **RB2** (ribbed front) the BEST tire package.

510H-16 K112 . . . . . Reg. $71.43 . . . . . **$52.49**
450H-17 K112 . . . . . $70.61 . . . . . **$51.85**
400H-18 K112 . . . . . $66.63 . . . . . **$48.93**
475H-18 K112 . . . . . $69.55 . . . . . **$51.06**
325H-19 RB2 . . . . . $55.56 . . . . . **$40.83**
350H-19 RB2 . . . . . $60.01 . . . . . **$43.92**

Also in V-rated and tubeless — call for prices.
Continental tubes: all sizes . . . . . **$9.90 ea**

GOODYEAR



GT II Low profile, blackwall, tube-type street/touring tire with bead-to-rim retention safety feature.

510-16 . . . . . Reg. $71.19 . . . . . **$54.55**
510-17 . . . . . $73.74 . . . . . **$51.93**
400-18 . . . . . $64.26 . . . . . **$46.54**
450-18 . . . . . $68.63 . . . . . **$50.48**
510-18 . . . . . $75.63 . . . . . **$57.93**
350-19 ribbed fr. . . . . $54.44 . . . . . **$41.96**

Also in tubeless — call for prices.

K190 MOTOCROSS Medium compound, all terrain type, reinforced shoulder blocks, "dimple" knobs, rim saver sidewalls. Low profile.

250-14 front **$17.72**
360-14 . . . . . **$21.44**
410-14 . . . . . **$25.44**
510-17 6-ply **$41.98**
410-18 . . . . . **$32.60**
460-18 . . . . . **$38.13**
300-21 front **$30.36**
325-21 front **$35.39**

HST Low profile, blackwall, tubeless hi-speed touring tire with superior wet traction. (Can be used with tubes).

510-16 . . . Reg. $73.23. . . **$56.12**
510-17 . . . . . $76.29. . . **$58.44**
425-18 . . . . . $77.37. . . **$59.23**
475-18 . . . . . $78.05. . . **$59.23**
375-19 front . . . $60.93. . . **$46.61**
325-19 rib front . $58.31. . . **$44.58**
375-19 rib front . $60.93. . . **$46.61**
Raised White Letters — add **$9.00**
Goodyear tubes — all sizes **$7.89 ea**

SHIPPING CHARGES

must be added to all prices. Minimum order is $10.00

	West of Rockies	West of Miss.	East of Miss.
Front tires	2.45	3.15	3.85
Rear tires	3.35	4.75	5.75
Shocks/ springs	2.65	3.65	4.25
Exhausts	4.50	6.25	7.95
Boots	2.25	3.15	3.85
Helmets	1.75	2.35	3.00
All others	1.25	1.65	2.25

AK, HI, PR, CZ, APO/FPO customers, use 3rd col. Freight rates to Canada — add $3 to amounts shown in 3rd col. All orders shipped fully insured. COD orders require a 25% deposit and an additional $1.50 in shipping charges. No CODs to APO/FPO or Canada addresses.

CHENG SHIN

C-701 Low profile, hi-speed hi-mileage street/touring tube-type tire — excellent quality at moderate prices.

510/85 H-16 . Reg. $52.24 **$38.85**
510/85 H-17 . . . . . $54.99 **$40.79**
410/85 H-18 . . . . . $49.53 **$36.76**
460/85 H-18 . . . . . $50.76 **$38.03**
510/85 H-18 . . . . . $55.90 **$41.53**
360/85 S-19 front . $31.90 **$24.58**

Cheng Shin tubes — special with tire purchase **$4.50**

ELECTRONIC IGNITIONS

By Martek. Eliminates ignition problems for ever. Increased horse power at high RPM. Increased useable RPM. Dead on timing. Uses stock coils, installs in 15 min. #440 Hon/Kaw/Suz 4s.

Reg. $119.95 . . . . . **$92.46**
#1000 GL1000/H-D/BMW
Reg. $98.95 . . . . . **$84.10**

ANTI-THEFT ALARM

The Martek Mongoose alarm — the only alarm that senses both motion of bike AND tampering sounds! Works off ignition switch. Automatic reset. 110 dbA horn included. Easy to install. Reg. $64.95 . . . . . **$55.20**

PHANTOM RIDER — 3001 RED HILL AVE., Bin 301, COSTA MESA, CA 92626

Qty	Description/size/color	Price ea	Total

☐ Please send me your FREE catalog — Add shipping charges
I enclose: ☐ Mo Order ☐ Cert. check — Calif res. add 6% sales tax
☐ Pers. check (allow 3 wks to clear)
☐ C.O.D. 25% deposit — must be enclosed w/order. — TOTAL

Charge to: ☐ Visa/BankAm ☐ M/Charge ☐ Am. Express

Account No. _____ Exp. date _____

Bike: year, make, model _____

Name _____

Address _____

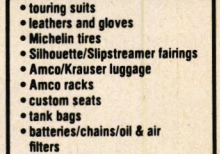
City/State/Zip _____

Phantom Rider
DISCOUNT MOTORCYCLE ACCESSORIES

OUR GUARANTEE

If not completely satisfied, any item you purchase from us may be returned within 14 days, in new and unused condition, for exchange or FULL refund. All merchandise is FIRST quality, NO seconds, NO blems. Tire prices include Fed. Exc. Tax. If you compare prices, be sure freight, F.E.T. and sales tax are included in total price quoted. Prices in previous ads no longer valid.

(c) Phantom Rider 1980



Free 80 Page Catalog
with savings up to 50% on

- **touring suits**
- **leathers and gloves**
- **Michelin tires**
- **Silhouette/Slipstreamer fairings**
- **Amco/Krauser luggage**
- **Amco racks**
- **custom seats**
- **tank bags**
- **batteries/chains/oil & air filters**
- **MX and cafe equipment, and much, much more**

WRITE (Please do not call). Use coupon or postcard to request your free copy of our catalog. All catalogs sent bulk mail. Allow 4-5 weeks for delivery. Canadian and foreign catalog requests — send U.S. $2 for postage and handling.

CYCLE GUIDE

Contents

VOL. 14 NO. 6 JUNE 1980

Publisher
Peter S. Nicolaysen
Editorial Director
Paul Dean
Editor
Michael Jordan
Art Director
David Clark
Managing Editor
Larry Works
Technical Editor
David Dewhurst
Associate Editor
Dain Gingerelli
Special Edition Editor
George Wegner
Assistant Art Director
Gilbert Luna
Assistant Managing Editor
Terri M. Craig
Editorial Assistant
Dean Taylor
Foreign Correspondents
London Desk
L.J.K. Setright
Milan Desk
D.O. Cozzi
Director of Editorial Development
Steven L. Thompson
Contributing Editors
Doug Jackson, George Larson, John Long, Merry MacTavish, Ted West, Terry Whytal
Contributing Artists
Patrick Behar, Richard George, Joe Gomez, Gary McAllister, Len Weed

COVER:
Robin Riggs' Brownie finds David Dewhurst surrounded by man-eating motocross bikes.

QUOTE:
"Twin-shock motocross bikes seem headed the way of the dinosaur. And it could happen at any time, starting right now."—**Pg 46**

SPECIAL EDITION: OFF-ROAD RIDING GEAR

80 ALL ABOUT THE DIRT RIDER'S WARDROBE
what to wear and, more importantly, how to evaluate it
82 GEAR UP TO GET DIRTY; LET YOUR FINGERS DO THE WALKING
a complete catalog that even Monkey Wards would be proud of

OPEN WARFARE: KX420 VS. YZ465G

38 THE HARDWARE *inside the weaponry*—**by David Dewhurst**
42 TRACK COMPARISON *Uni-Trak and Monoshock, mono a mono* —**by David Dewhurst**
46 MONOMANIA *a singularly shocking theory*—**by Paul Dean**

SUPER SUZUKIS FOR TOWN & COUNTRY

60 MINITEST: *SUZUKI GS850L streetfighter on a shaft* —**by Michael Jordan**
70 SUZUKI GS750ET *the wide-band 750*—**by Dain Gingerelli**
72 RACER'S GS *fine-tuning the wide-band bike*—**by Michael Jordan**

LOOKING BACKWARD

50 MOTORCYCLE GAZETTE *astounding tales from the days when men were iron and bikes were too*—**by Fenton "Herk" Merkle**

PRODUCT EVALUATIONS

62 SAFARI CAMERA *the f-stop's lunchbox*—**by David Clark**
64 SHOEI FM-2 FAIRING *it handles the wind*—**by Dain Gingerelli**
66 RUKKA RAINSUIT *the wet look is out*—**by Larry Works**

GUIDE LINES

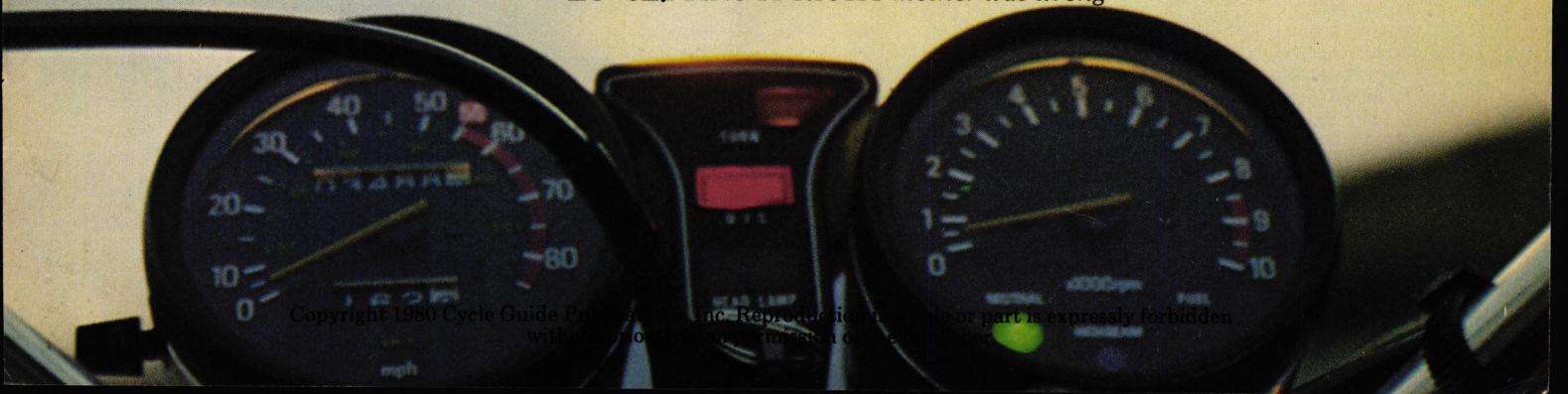
25 COMING SOON *Hesketh 1000 vee-twin, SWM TLNW 320*
27 RIDE/REPORT *Cagiva 250 MXR*
30 DEADLINE EXPRESS *leaving on the half-hour*

SPORT LINES

107 WATERPUMPERS *leading the 125 MX bikes to water*
124 PROJECT BOSS STOCK *how much does it cost?*
130 WINNERS & LOSERS *secrets of the NR500 revealed at last*

COLUMNS & DEPTS

8 EDITORIAL *living with naked number plates*
14 LETTERS *welcome to the monkey house*
22 TECHSPEAK *take a ride on the EPA Cycle*
23 SETTING IT RIGHT *mother was wrong*



Copyright 1980 Cycle Guide Publications, Inc. Reproduction of this article or part is expressly forbidden without prior written permission.

CYCLE GUIDE'S CYCLE GUIDE

OFF-ROAD

MAKE & MODEL	ISSUE	ENGINE TYPE	WHEEL TRAVEL, IN. FRONT/REAR	WEIGHT, LBS	HORSEPOWER @ RPM*		GEARS
Can-Am 175 Qualifier	Aug. '78	Two-str.	7.7/7.1	234	16.4	9000	6
Can-Am 250 MX-5	Jan. '79	Two-str.	10.8/10.0	218	32.1	8500	5
Can-Am 250 Qualifier III	Feb. '80	Two-str.	9.7/9.8	230	25.2	8000	6
Cam-Am 400 MX-6	June '80	Two-str.	11.5/10.8	233	38.3	6500	5
Honda CR125R	Jan. '80	Two-str.	11.5/10.8	202	20.8	10500	6
Honda CR250R	May '80	Two-str.	11.8/11.0	222	27.5	7000	5
Honda XL185	March '79	Four-str.	7.4/6.75	239	11.2	7500	5
Honda XL250S	Oct. '78	Four-str.	7.8/7.7	262	14.8	8000	5
Honda XR185	March '79	Four-str.	8.0/7.75	221	12.8	10000	6
Honda XR500	May '79	Four-str.	8.5/8.6	273	25.8	6500	5
Husqvarna 125CR-'80	Nov. '79	Two-str.	11.8/11.8	214	18.8	11000	6
Husqvarna 250CR	Dec. '78	Two-str.	11.8/11.8	227	24.3	8500	6
Husqvarna 250WR	Aug. '79	Two-str.	9.5/9.5	238	21.9	6500	6
Kawasaki KLX250	Sept. '79	Four-str.	9.8/10.5	239	15.2	8500	5
Kawasaki KX125 A5	Oct. '79	Two-str.	9.8/10.0	194	20.0	11000	6
Kawasaki KX250 A5	June '79	Two-str.	11.0/10.9	219	27.9	8000	5
Maico 400 MI	April '80	Two-str.	12.3/12.0	233	35.5	7000	5
Maico 450 MI	April '80	Two-str.	12.3/12.0	236	37.0	7000	5
Montesa Cappra 414 VE	Oct. '79	Two-str.	10.9/10.7	236	28.5	6500	4
Suzuki PE175	Aug. '78	Two-str.	8.8/9.4	216	11.2	9000	6
Suzuki RM125T	Dec. '79	Two-str.	11.2/11.7	200	19.8	10500	6
Suzuki RM250N	May '79	Two-str.	11.2/11.8	218	27.1	8000	5
Suzuki RM400N	Sept. '79	Two-str.	11.2/11.8	229	28.1	7500	5
SWM 175 ISDT	Aug. '78	Two-str.	10.0/10.0	220	17.3	9500	6
SWM 250 MX	Nov. '78	Two-str.	10.0/10.0	216	29.5	9000	5
Yamaha Pro-Tec 600	Nov. '79	Four-str.	10.5/10.1	262	46.2	6500	5
Yamaha IT175F	Aug. '78	Two-str.	7.2/7.2	217	15.7	9000	6
Yamaha IT250G	Dec. '79	Two-str.	9.8/9.8	244	27.7	8000	6
Yamaha YZ250G	March '80	Two-str.	11.2/11.6	217	29.6	8000	6
Yamaha YZ400F	Feb. '79	Two-str.	10.7/10.4	226	36.9	7000	5

*Horsepower shown is taken at the rear wheel and does not account for transmission losses between the engine and rear wheel. These results may differ from manufacturer's claims or from results obtained using a different dynamometer.

STREET

MAKE & MODEL	ISSUE	ENGINE TYPE*	QUARTER-MILE, SEC./MPH	TOP SPEED, MPH	WEIGHT, LBS	FUEL CONSUMPTION, MPG	STOPPING DISTANCE FROM 60 MPH, FT.
BMW R80/7	Oct. '78	2C/G	13.47/97.9	104	442	38-46	138
BMW R100T (Dressed)	Aug. '79	2C/G	13.81/92.9	119	521	38-53	142
Ducati Darmah	Sept. '78	90-deg. 2D/F	13.41/97.5	118	487	25-40	120
Dunstall-Suzuki GS1000 CS	July '79	4A/F	11.32/117.0	154	488	37-.5	124
H-D CLE Sidecar	Sept. '79	45-deg. 2D/F	17.60/69.3	91	1036	25-35	181
Honda CB400T Hawk	March '80	2A/F	14.37/88.6	100	391	51-65	139
Honda CX500	Feb. '78	80-deg. 2E/G	13.86/93.4	106	449	28-50	134
Honda CX500 Custom	Aug. '79	80-deg. 2E/G	14.12/92.9	102	468	44-51	146
Honda CB650	Feb. '79	4A/F	13.29/99.9	113	447	37-51	131
Honda CB650 Custom	Dec. '79	4A/F	13.10/99.8	113	447	44-52	131
Honda CB750F	Oct. '79	4A/F	12.41/106.8	128	524	31-52	135
Honda CB750K	Nov. '79	4A/F	12.77/105.8	124	525	38-52	130
Honda CB900C	June '80	4A/G	12.44/107.9	132	588	37-44	155
Honda Interstate	March '80	4C/G	13:40/96.0	121	718	33-45	146
Honda CBX	Dec. '79	6A/F	11.86/114.5	130	555	19-36	145
Kawasaki KZ650 Custom	May '79	4A/F	13.16/100.2	116	483	45-49	125
Kawasaki KZ750	May '80	4A/F	12.50/107.8	127	471	39-50	134
Kawasaki KZ1000 MkII	April '79	4A/F	12.06/110.3	130	545	34-46	129
Kawasaki KZ1000 ST	April '79	4A/G	12.23/111.0	132	574	38-45	130
Kawasaki Z1-R	April '80	4A/F	12.24/110.6	130	552	35-48	131
Kawasaki KZ1300	March '79	6A/G	11.79/115.7	140	664	31-39	133
Laverda 1200 Jota	Dec. '78	3A/F	12.54/105.0	121	518	29-37	145
Suzuki GS450 ST	May '80	2A/F	14.09/92.5	100	397	55-57	127
Suzuki GS750LN	Sept. '79	4A/F	12.87/103.5	120	526	41-50	129
Suzuki GS850N	March '79	4A/G	12.81/104.0	116	566	35-45	153
Suzuki GS1000LN	June '79	4A/F	12.39/108.4	130	526	39-50	129
Suzuki GS1000S	July '79	4A/F	12.43/110.0	132	539	39-45	124
Suzuki GS1100ET	April '80	4A/F	11.43/118.3	140	544	37-49	116
Triumph Bonneville	Dec. '78	2A/F	13.41/96.2	110	414	42-49	NA
Triumph Bonneville Special	July '79	2A/F	13.94/96.2	110	411	45-55	175
Yamaha RD400F	June '79	Two-str. 2A/F	14.16/90.2	98	355	30-43	129
Yamaha SR500E	April '78	1B/F	14.98/84.2	92	364	49-58	132
Yamaha XJ650 Maxim I	June '80	4A/G	12.60/107.4	120	453	40-54	128
Yamaha TZ750E	April '79	Two-str. 4A/F	11.62/125.5	180	331	NA	NA
Yamaha XS850LG	Feb. '80	3A/G	13.10/101.7	116	548	42-55	144
Yamaha XS1100F	Nov. '78	4A/G	12.12/111.9	134	573	29-47	136
Yamaha XS1100SG	Jan. '80	4A/G	11.94/112.6	135	572	42-47	129

*A-Transverse Vertical, B-Vertical, (single-cylinder only), C-Horizontally Opposed, D-Tandem Vee, E-Transvérse Vee, /F-Chain Final Drive, /G-Shaft Final Drive, /H-Belt Final Drive

CYCLE GUIDE PUBLICATIONS, INC

President — George W. Dougherty
Executive Vice-President — Peter S. Nicolaysen
Director of Editorial Development — Steven L. Thompson
Vice-President, Finance — Tony Lisanti
Vice-President, Circulation — L. Albert Crespo
V.P.&Nat'l Advertising Director — George Clark
Western Sales Manager — Charles Young
Eastern Sales Representative — Fred Cooley
Advertising Production Manager — Muriel Torii

CYCLE GUIDE (ISSN 0011-4278) is published monthly by Cycle Guide Publications, Inc., 16 South Wesley Avenue, Mt. Morris, Illinois 61054. Editorial executive offices, P.O. Box 6040, 1440 West Walnut Street, Compton, California 90224. Telephone (213) 537-0857. Application to mail at controlled circulation postage rates is pending at Sparta, Illinois 61054.

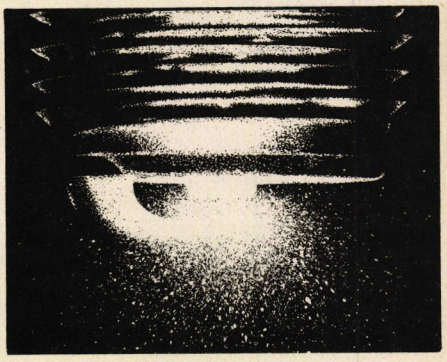
EDITORIAL CONTRIBUTIONS: Welcomed by Cycle Guide Publications, Inc., but cannot be considered unless guaranteed exclusive. Cycle Guide cannot be responsible for unsolicited material or damage to same in mails. If material is to be returned, include self-addressed, stamped envelope. Send all contributions to: Cycle Guide, P.O. Box 6040, Compton, California 90224.

ADVERTISING: See SRDS. Send copy and instructions to Advertising, Cycle Guide Publications, Inc., P.O. Box 6040, 1440 West Walnut Street, Compton, California 90224. Telephone (213) 638-6178.

SUBSCRIPTION SERVICE: Forms 3579 and all subscription correspondence should be addressed to Cycle Guide Reader Service, P.O. Box 267, Mount Morris, Illinois 61054.

SUBSCRIPTION RATES: United States: $9.00 one year, $16.00 two years, $21.00 three years. In Canada, add $2.00 per year, all other countries add $3.00 per year. Single copy rate $1.25.

Member of Audit Bureau of Circulations



Change of Address

If you're moving, missed an issue, or just want to write us about your subscription, you'll get better service by removing the address label from the cover and attaching it as shown here. Please give us six weeks advance notice when moving and include your new zip.

★ ATTACH YOUR MAILING LABEL HERE ★
(If not possible, print your old address here)

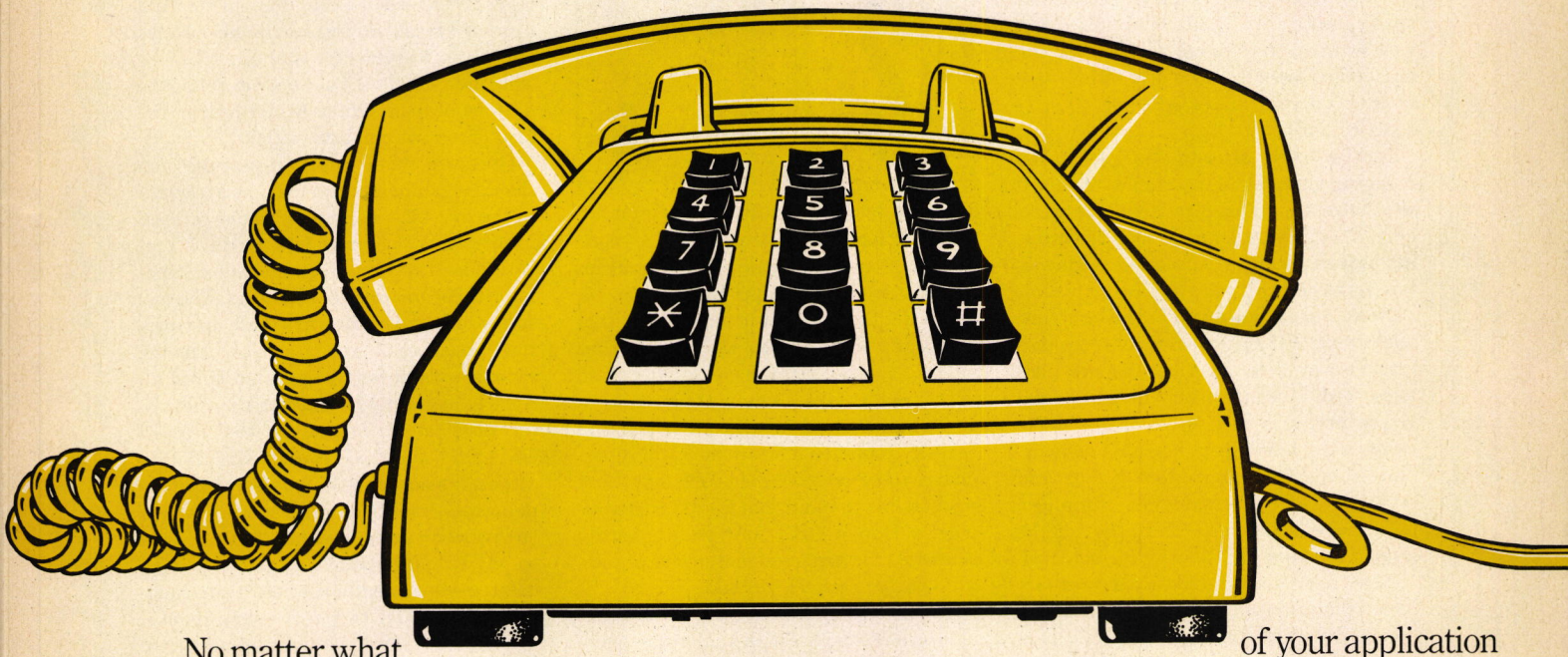
Name _____
Street _____
City _____
State _____ Zip _____

★ PRINT YOUR NEW ADDRESS HERE ★

Name _____
Street _____
City _____
State _____ Zip _____

MAIL TO: CYCLE GUIDE READER SERVICE
P.O. Box 267, Mount Morris, Illinois 61054

ONLY YAMAHA STREET BIKES COME WITH PUSH-BUTTON INSURANCE.



No matter what kind of street bike you decide to buy, it's only going to go as fast as you can get insurance.

All the more reason to make sure it's a Yamaha.

Yamaha has teamed up with K&K Insurance Agency Inc., the same company that administers insurance programs for the American Motorcycle Association, Sports Car Club of America, NASCAR and the National Hot Rod Association.

Together, we've devised an insurance coverage program for new Yamaha owners that offers competitive rates and a variety of options. It's as easy as a phone call, and just as fast.

Once you've picked out your Yamaha at any participating dealership, you simply pick up the phone, dial a toll-free number and give the K&K representative your particulars.

K&K will assign you a coverage verification number which makes your insurance effective immediately. You're guaranteed protection for you and your motorcycle for 30 days, or until the underwriting of your application is finalized. Should you need evidence of coverage for loan applications and registering your bike, K&K will supply that, too.

So you can roll your new Yamaha off the showroom floor and ride it home the same day.

Of all the high-tech specs to keep in mind when you're shopping for a motorcycle, don't forget this one:

Only Yamaha street bikes go from 0-to-insured in seconds.

YAMAHA

When you know how they're built.

Availability subject to state insurance council approval.

Editorial

Number Plate Mania

Don't be afraid to be seen with a naked number plate

• Surely you've noticed that nearly every dirt bike you trip over these days has a number plate attached to it. Just take Suzuki's lineup of dirt bikes as an example. Not only do the serious RM motocrossers and PE enduro models have them, but so do the RS and DR playbikes. And that's not to mention the low-tech, high-grins DS and dual-purpose TS. As a result, it's easy to get the impression that dirt bikes have become specialized devices built solely for racers with winning on their minds. And that unless you're carrying some sort of low-digit number on your bike's sidepanels, you're some kind of sissy.

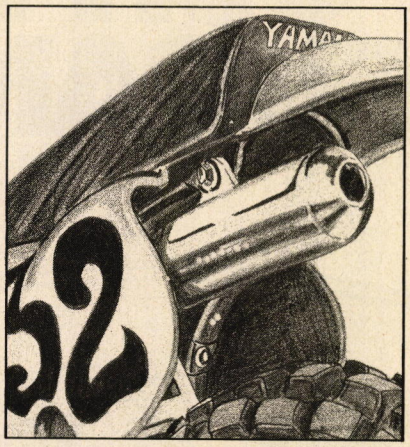
Maybe you're already aware of it, but creeping number-plate mania makes it worth repeating: Dirt bikes aren't for racers only. They're built for more than just crossing broken ground at speeds Kent Howerton would approve of.

Now, I realize you might have a hard time swallowing that statement whole considering the way dirt bikes usually are photographed. I mean, it's easy to believe that you're unfit to be seen on one unless you're wearing the latest in fashionable body armor from JT Racing, Moto-X Fox and O'Neal and at least capable of performing a passable wheelie-clicker-bermshot at the snap of a camera shutter. But it's not true.

Sure, motocross fashions and hardware have revolutionized dirt bikes across the board. But hard-core motocross bikes are just the tip of the dirt-riding iceberg. Statistics from Yamaha reveal that just 75 percent of its motocross bikes ever make it onto the racetrack even once. Furthermore, the combined total of playbikes and enduro bikes outsells motocross hardware significantly. And in the past year, the Motorcycle Industry Council says that the sales rate of motocross bikes actually has declined.

I'll admit that these statistics sometimes worry me. I hope that the talent, dedication and expense that motocross demands haven't discouraged people from maintaining their interest in dirt bikes. Usually, though, I'm not concerned. I assume that there are so many different kinds of dirt bikes on the market these days, from enduros to playbikes—not to mention the sheer volume of used motocross bikes—that dirt riders have turned away from the hardcore racing bike with number plates as the ultimate solution to their needs.

But just in case the high hurdle of motocross has inadvertantly turned off any potential dirt bike guys, let's get back to the



dirt bike bottom line and forget number plates, 32 bazillion horsepower and 5.4 decimeters of suspension travel for a moment. Messing around on a dirt bike is good for grins. Got that? It's the common bond that everyone who rides bikes with knobby tires shares. Number plates have nothing to do with it. A dirt bike is simply the ultimate in two-wheeled speed and responsiveness, and tearing around on a dirt demon will supercharge your nervous system. You may think it's possible to indulge in a little edgework with a Honda CBX, but you've hardly scratched the surface of motorcycle physics until you've ridden a dirt bike.

There's more than one kind of fun available on a motorcycle with knobby tires, too. You can truck yourself out to the nearest cycle park or empty lot and amuse yourself endlessly by chasing your friends across hill and dale, climbing hills, jumping off cliffs or just doing tricks like long crossed-up slides. Then there's cow-trailing, nearly every dirt rider's favorite sport, which tests your ability to thread your bike down narrow trails while giving you the opportunity to sightsee along the way.

Number plates to the contrary, dirt bikes are a pretty free-form deal. Still, if you want to participate in an organized ride, or just plain compete, dirt racing might be the most accessible form of competition for motorcycles there is. Sure, you all know about the motocross held up the road every Sunday, but there are also enduros, hare-and-hounds, hare scrambles and the odd grand prix. And there's no reason to be intimidated by these events, either. In many ways, they're far more like a weekend romp than cutthroat competition. And thanks to the evolution of dirt bikes in general, you don't really need special hardware to have fun.

For example, I took a Can-Am 250 Qualifier III, my idea of a perfect all-around dirt bike, and entered a grand prix just for grins. I showed up, collected some numbers to decorate my barren number plates and lined up at the starting line. I went fast, passed a few people, got passed by a few people and had a great time. In the team race I even won the hacker's class with another guy, ahead of a couple of old men and a girl as I recall. So you see, number plates are just an accessory for your dirt bike, like white sidewall tires. They neither define the purpose of the motorcycle, nor restrict the kind of fun you can have with it.

Of course, this is not to suggest that you should regard motocross bikes as irrelevant to the dirt bike world as a whole, or even irrelevant to the street bike world. Motocross bikes function as genuine rolling laboratories for motorcycle engineers. The air-spring fork, the leading-axle fork, anti-stiction bushings, reed valves, strong swingarms and long suspension travel all come to us courtesy of motocross. And motorcycles as different as the Suzuki GS1100ET and the Kawasaki KLX250 incorporate some of the lessons learned on the motocross track. You can see that even if you're not an Open-class pro shopping for a trophy-winning mount, a motocross bike deserves your attention because its technology will soon find its way to your own bike.

So while I think we understand better than any other magazine that a motocross bike is built strictly to win races, we also understand that there's more to dirt bikes than number plates, Scott Boots and Bell Moto-Star IIIs. Beneath all the hype that whirls around dirt bikes these days, you should realize that the most persuasive reason to ride one is the fact that they're Fun. And considering the price of motorcycles these days, the $1400 you spend on a 175cc enduro bike adds up to the most fun per dollar on two wheels.

So if you've decided to get out of dirt bikes, or not even get into them, because the world of number plates holds no fascination for you, you're making a mistake. At this moment, you've got the mostest and bestest dirt bikes ever built to choose from, with nothing but good times ahead. A lot of the knobby-tired scooters in our test bike fleet may carry number plates, but we're not ashamed to be seen riding them in public bare of numbers. After all, there's more to dirt bikes than winning races.

—Michael Jordan

BREAKAWAY WITH MOTORCYCLE CLUBAMERICA

AT LAST, A PACKAGE FOR YOU AND YOUR MOTORCYCLE THAT WILL REALLY ADD TO YOUR RIDING PLEASURE

CHECK OUT YOUR IMPORTANT CLUB BENEFITS!

EMERGENCIES

Pickup and Emergency Repair Reimbursement — Up to $25.00 per occurrence when your motorcycle cannot safely proceed under its own power.

Living Expenses — Cost of meals and lodging while your motorcycle is unusable after a traffic accident 100 miles or more from home. Up to $20.00 per day — up to 3 days.

LEGAL AID

Pays for Lawyer's Services in defending you against auto manslaughter or auto assault and battery charges — up to $500.00.

Pays for Lawyer's Services in defending you against charges of driving to endanger or reckless driving resulting in bodily injury or property damage to others — up to $50.00.

Pays for Lawyer's Charges on a motor vehicle hearing — up to $25.00.

BAIL BOND PREMIUM

Reimburses you for cost of Bail Bond Premium when bail is required because of accident or traffic violation with your motorcycle — up to $500.00.

THEFT REWARD

A $500.00 Theft Reward Decal to protect your valuable equipment.

NEWSLETTER

Published monthly with the inside news you want. Reports on what helps or hurts your riding. Plus exclusive information to keep you and your bike rolling.

MEDICAL SUBSCRIPTION SERVICE

Club will microfilm your medical information and give you a plastic Medical Info Card containing that information.

TOLL FREE MESSAGE SERVICE

Leave important messages for friends or relatives at Club's toll free number while you're traveling.

KEY RETURN SERVICE

You'll receive your own Club Key Ring identifier that will get your lost keys returned pronto.

MEMBERSHIP CARD

Your in pocket key to all Club benefits, including guarantee of Club reimbursement services.

CLUB DECAL

Your personal *MOTORCYCLE CLUBAMERICA* identity.

AND . . . your special *MOTORCYCLE CLUBAMERICA* **Accident** Insurance:

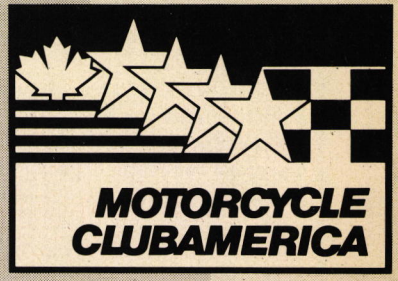
Up to $5,000.00 Accidental Death and Dismemberment Policy.
Cash Hospitalization Payments — up to $35.00 per week — up to 13 weeks — direct to you!
Plus Room and Board Costs — up to $25.00 per day — up to 100 days!

PLUS OTHER VALUABLE BENEFITS

BONUS BENEFIT

Emergency Cash up to $50.00 wired or flown to you if you're stranded more than 100 miles from home. This interest free loan is returnable within 30 days. See coupon * below.

JOIN TODAY!
MOTORCYCLE CLUBAMERICA
7050 SOUTH YALE
TULSA, OKLAHOMA 74136



Please set up my membership in *MOTORCYCLE CLUBAMERICA* at once, and send along complete details about my benefits.

MOTORCYCLE CLUBAMERICA
7050 S. YALE
TULSA, OKLA. 74136

MY NAME: _____

STREET ADDRESS: _____

CITY: _____ STATE: _____ ZIP _____

* BONUS BENEFIT IDENTIFICATION _____
MOTHER'S MAIDEN NAME

MOTORCYCLE INFO: _____ _____ _____
MFG. MODEL SERIAL # (LAST 4 DIGITS)

☐ 1 YEAR — $35.00** ☐ 2 YEARS — $55.00**

☐ CHECK ENCLOSED

☐ MASTER CHARGE ☐ VISA

Card # _____ Expire Date _____

Benefits may vary from state to state. Details in your membership Kit.

** *Includes one (1) time initiation fee of $10.00.*

01-104

Thompson At Large

Confronting The Punk

Does every dealer have to have one?

• Ever wonder what industry bigwigs talk about when they relax over boilermakers? Yeah, sure, they groan about the Feds, taxes, investment credits, unfair competition, unpredictable sales trends and all that, but what they mostly care about is *growth*. More than anything in the world, every corporate biggie dreams of a market that's so big his plants running full-on three-shift days will never be able to satisfy the growth. And so your average biggie spends a lot of time noodling out ways to make more people buy more motorcycles.

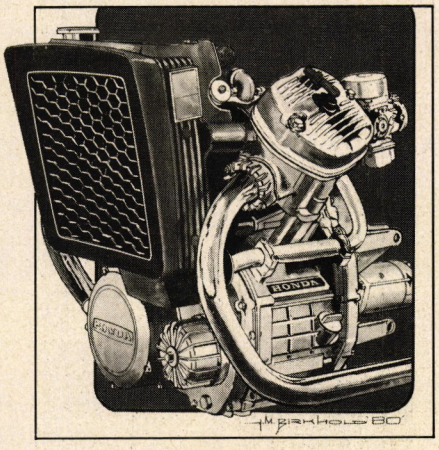
He doesn't worry about you. After all, you're a known factor. All they have to do is build a better bike for you. The guy he worries about is the borderline biker. How to catch his interest. How to get him into the dealership. How to sell him a model he won't be scared of. And how to keep him coming back.

You might have noticed that there has been no mass migration into your local bike shops, in spite of the biggies and in spite of economic incentives undreamed of 10 years ago. And so you might well wonder: Why isn't everybody at least investigating this business of motorized two-wheelers?

You've got your pat answers, of course, that've stood us in good stead for decades. You know; the black-leather-jacket syndrome, the 'murdercycles' scare, all the psychosocial effluent that's been sluiced down on us by every harebrained "observer" since Marlon mounted Triumph. But I think there's another reason, a lot closer to home, and a lot less easy to confront. I think it's The Punk.

You know the Punk. His job is ostensibly to sell you the parts you need to keep your good times rolling. But *he* thinks his job is to go mano a mano with every mark who approaches, desperately trying to prove that said mark is a hopeless geek with no business at all on whatever bike he's had the gall to buy.

It's always been true, I guess, that jock-oriented pastimes have attracted jock-type counter people. You tiptoe timidly into your average racquetball parlor and mumble something about like-to-learn, what-to-buy, and the musclehead behind the hundred-dollar-shorts display will deal with you precisely the same way as the Moto-Punk. Somehow, you have to *prove* your competence to even be in the shop, let alone engage the so-called service-person in conversation about your broken side covers. I remember it being so in the cavelike sports-



car shops of the early Sixties, and when I first started riding bikes, 17 years ago, it was just the same across town in the cavelike bike shop. You had to look right, talk right and act right before the greasy denizens of Bob's H-D/Tri-Nor-Duc City would even deign to recognize your presence.

I submit that although Bob's got himself a shiny new showroom with plastic potted plants in the corner, videotape machines and a HON-KAW-YAM-SUZ franchise, you still have to undergo the rituals before you get anything approaching decent service. Not in the Sales Dept., of course; there, the dealers of America have learned their lesson and actually hired people with gracious smiles and no desire to make the ignorant potential buyer creep out, humiliated, because he didn't ride up on whatever kind of superbike the salesman considers *de riguer* for belonging to The Club. No, in the sales department, Punks are outlawed.

If you bought an air conditioner and it broke—or even if you broke it—nobody at the service store would treat you like some kind of pathetic lowlife as a result. That's because businessmen in the consumer-service segment of the economy have learned that when you annoy, irritate, humiliate or otherwise negatively affect your customers, they stop being your customers. Fast. But not so in Moto-Land. There, Punks abound, and it's only because of the stranglehold on parts and service that they're allowed to continue.

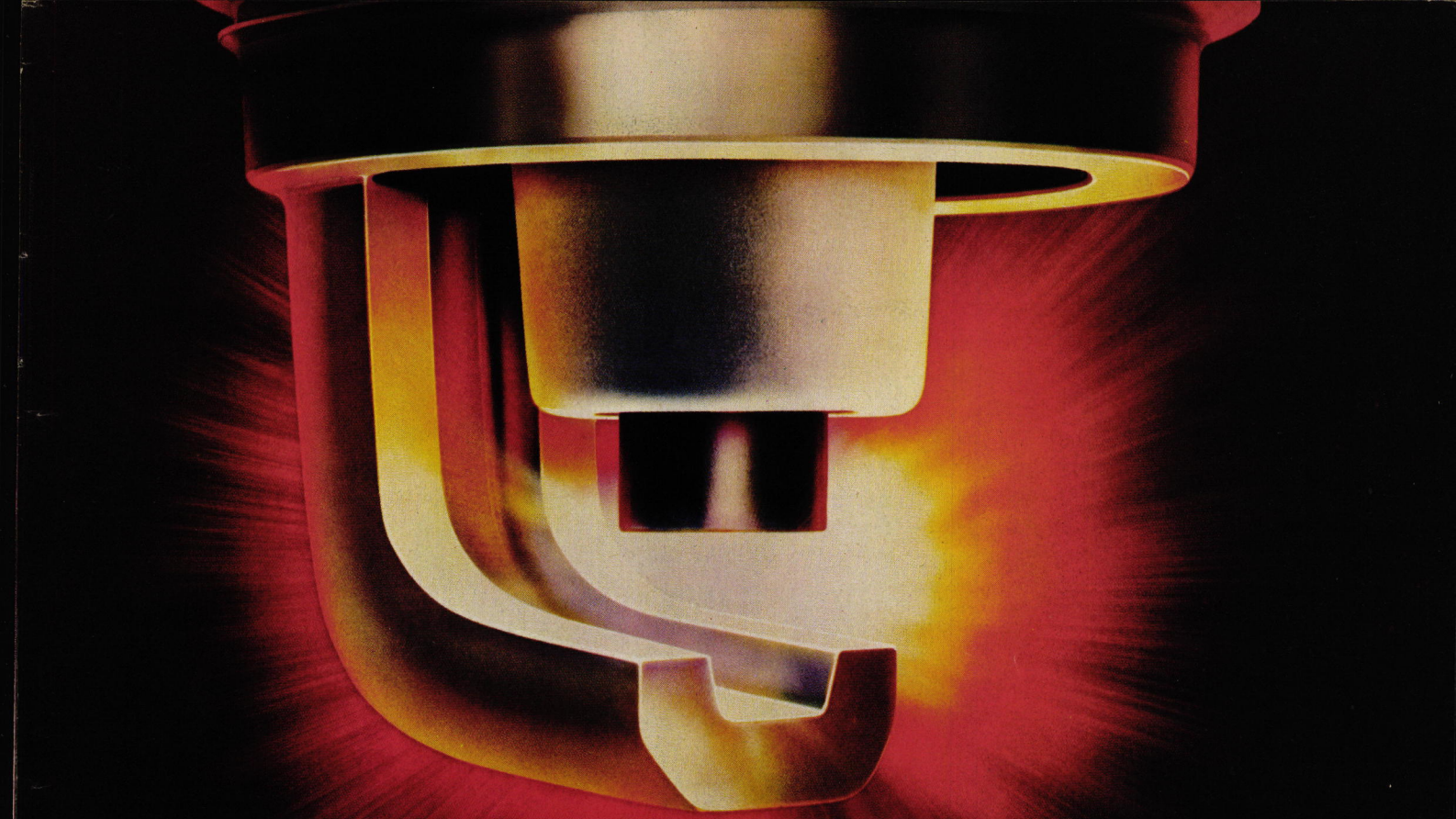
Without exception, every single motorcyclist I've queried about this has admitted that he's been treated similarly by the overwhelming majority of dealers. And without exception, none has ever complained to the dealer or even discussed it with friends. It's as though the ritual of proving you *deserve* the service is imagined by everyone to be an integral part of the Motorcycle Deal.

Well, friends, it's not. There *are* dealers who take the trouble to pay a little more to their help, who make sure that a customer stays a customer, who try to avoid making people on the other side of the magic glass partition feel like outsiders. Dealers, in other words, who are businessmen first and so-called enthusiasts second.

Paul Dean, once a successful dealer himself, has often puzzled over this problem with me. His only guess as to why some of his one-time colleagues allow such behavior in their shops lies in what he calls the Frustration Factor. It starts when you open your doors on Saturday and six kids arrive with six boxes full of unassembled, screwed-up motorcycle. It grows when some guy comes in and insists that his Super Hawk has a two-stroke engine and why don't you stock the right parts? And it can culminate, theorizes Dean, when the guy you just sold the new 750 calls from three miles away, swearing that he'll sue if you don't get the bike started again. By the time you hang up the phone, you know that he's just run out of gas and that he's either too stupid or too inexperienced to know it. After a few years of that, says Paul, some dealers *want* to exclude people who'll make their lives difficult, bad business or not.

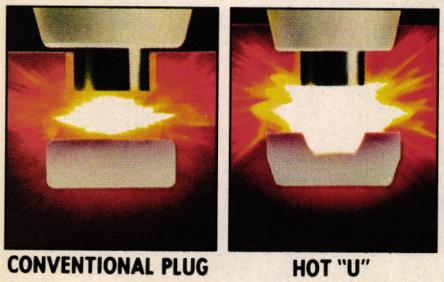
Well, maybe. Maybe customers are stupid, inconsiderate, incompetent and sometimes dangerous. But they—*we*—are also the ones who keep the whole ball of wax rolling. Almost every other slice of American business has figured that out—even, finally, some of the jock-world—so I figure it's high time to change. I have all the sympathy in the world for the increasingly difficult bedevilments of the motorcycle dealer—his astronomical flooring charges, his parts overhead, his legal entanglements, his high personnel turnover—but I don't think about that when his punk is giving me the fisheye because he thinks our transaction is really a wrestling match. When that happens, all I can think of is the location of the next dealer. And if very many brand-new motorcyclists are feeling the same way, I'd say it's time the corporate biggies took note of it. Maybe some pressure from them could do something about The Punk. Because until then, the whole experience of motorcycling is going to remain slightly distasteful to people who expect to be treated as customers instead of the enemy.

—Steve Thompson



HOT "U" EXPLODES THE MYTH THAT ALL PLUGS ARE CREATED EQUAL.

THE DIFFERENCE STARTS WITH THE HOT "U."

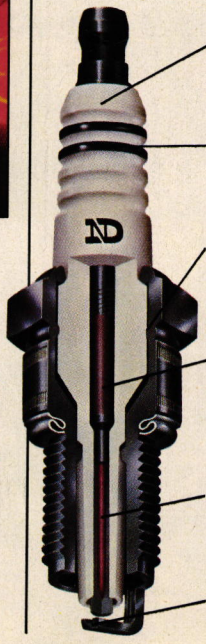


CONVENTIONAL PLUG HOT "U"

It's a difference you can see. A difference you can feel. A spark of genius we call the Hot "U." It's a U-shaped groove machined into the ground electrode that helps the Hot "U" spark develop a larger, fuller flashfront.

A big, hot ball of fire that delivers quick starts and top performance at all speeds from lug to let 'er rip.

THEN THE GAP WIDENS.



Insulator. Highly purified alumina powder for added strength.

5-Rib Design. More insulation, prevents flashover.

Electric Heat Seal. Bonds insulator to steel housing for maximum gas tightness.

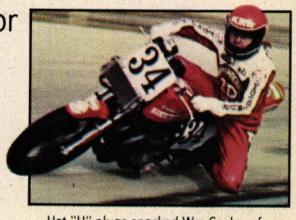
Unique Copper-Glass Seal. Fuses center electrode to upper stem to form gas-tight seal. Assures full voltage at spark gap.

Copper-Cored Center Electrode. Creates a wide, efficient heat range for top performance at all speeds.

Patented U-Grooved Ground Electrode. Develops a larger, fuller flashfront for complete combustion.

HOW WE ARE PROVING OUR POINT.

On-street or off-road, there's a Hot "U" plug that's right for your bike. Buy yours today at your nearest bike shop. Or write: Nippondenso of LA, Inc., 857 East 230th, Carson, CA 90745.



Hot "U" plugs sparked Wes Cooley of Team Yoshimura to the 1979 Superbike Production Championship.

NOT ALL PLUGS ARE CREATED EQUAL

HOT "U"

SO UNIQUE, IT'S PATENTED.

Also available in Gold Palladium version.

© 1979 Nippondenso of Los Angeles, Inc.

BECAUSE AT THE END OF EVERY
THERE'S A SHORT, CROWDED

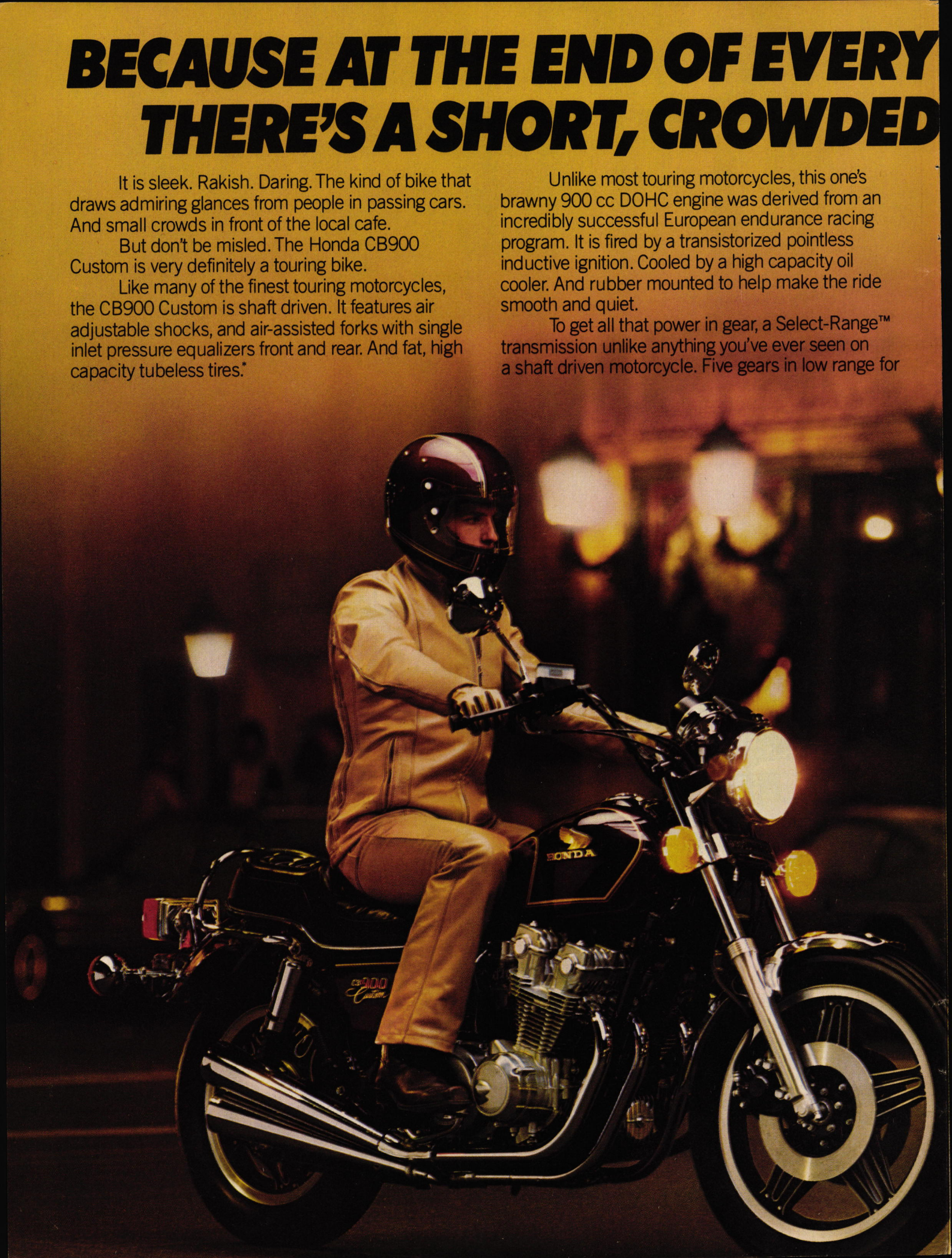
It is sleek. Rakish. Daring. The kind of bike that draws admiring glances from people in passing cars. And small crowds in front of the local cafe.

But don't be misled. The Honda CB900 Custom is very definitely a touring bike.

Like many of the finest touring motorcycles, the CB900 Custom is shaft driven. It features air adjustable shocks, and air-assisted forks with single inlet pressure equalizers front and rear. And fat, high capacity tubeless tires.*

Unlike most touring motorcycles, this one's brawny 900 cc DOHC engine was derived from an incredibly successful European endurance racing program. It is fired by a transistorized pointless inductive ignition. Cooled by a high capacity oil cooler. And rubber mounted to help make the ride smooth and quiet.

To get all that power in gear, a Select-Range™ transmission unlike anything you've ever seen on a shaft driven motorcycle. Five gears in low range for



LONG, LONESOME HIGHWAY MAIN DRAG.

plenty of punch on the parkways. And, with a simple heel and toe, five more in high. You can change the overall drive ratio 12% for lower rpm touring and less engine wear.

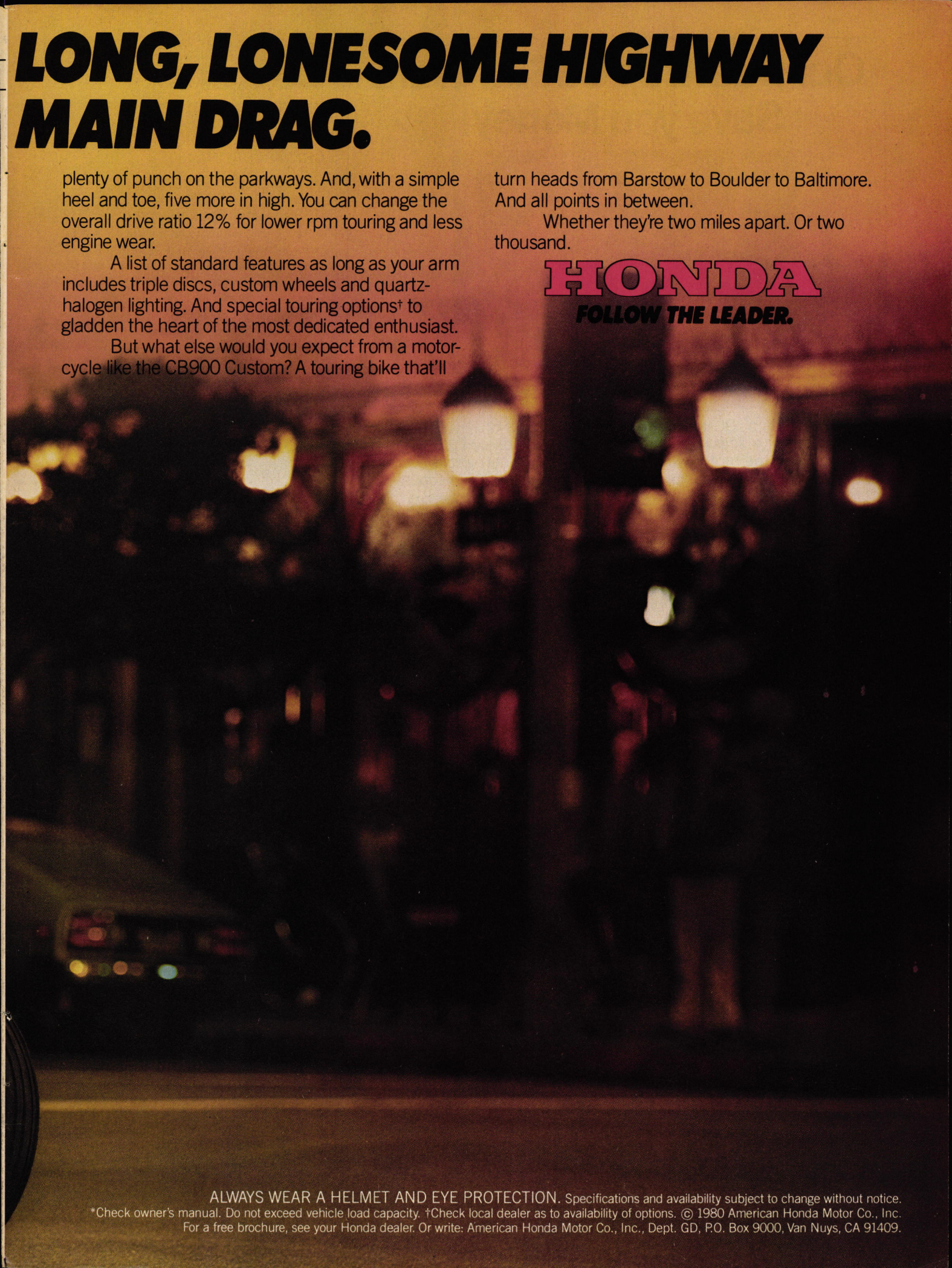
A list of standard features as long as your arm includes triple discs, custom wheels and quartz-halogen lighting. And special touring options† to gladden the heart of the most dedicated enthusiast.

But what else would you expect from a motorcycle like the CB900 Custom? A touring bike that'll turn heads from Barstow to Boulder to Baltimore. And all points in between.

Whether they're two miles apart. Or two thousand.

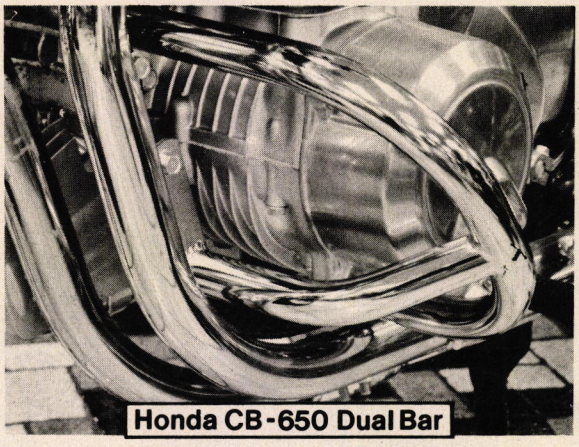
HONDA

FOLLOW THE LEADER.



ALWAYS WEAR A HELMET AND EYE PROTECTION. Specifications and availability subject to change without notice. *Check owner's manual. Do not exceed vehicle load capacity. †Check local dealer as to availability of options. © 1980 American Honda Motor Co., Inc. For a free brochure, see your Honda dealer. Or write: American Honda Motor Co., Inc., Dept. GD, P.O. Box 9000, Van Nuys, CA 91409.

Our Dual Bar Ca$e$aver$ Save you Money!



Honda CB-650 Dual Bar

The new line of GSM Casesavers are out. Each one is specially designed for a specific bike, so you know it closely follows the contours of the motorcycle engine, tucks in nicely and is a snap to install. Many insurance companies will give a 10% discount to street riders who install GSM Casesavers. This savings results in the casesavers paying for themselves in one year!* See your local dealer who carries GSM parts about this money-saving deal. *average savings is $25.00 per year.

GSM Motorcycle Accessories

13026 Raymer St., No. Hollywood, CA 91605

TURN ON-LEGALLY

Jardine's two, three, and four-into-one exhaust systems give you the look, the sound, **and** the power—all within legal restrictions!

FOR EXHAUST SYSTEMS & REPLACEMENT MUFFLERS.

Call Jardine HEADER COMPANY CG

Toll-Free ordering: 800-854-1877

7142 Belgrave Ave., Garden Grove Calif. 92641 • 714-893-7594

C3

Letters

Freedom of worship,
Gauntlets flung,
A case of numerology

MOVIOLA REVIEW

As a movie fan first and a cycle fan second (sorry) I was glad to read "Moto-Moviola." While it's unfortunate about the image that the cycle movies present, I do feel that the cycle movie is (or could have been) a legitimate part of the crime genre. That's why I was sorry to note the omission of "Hells Angels On Wheels." Adam Roark and Jack Nicholson—the Humphrey Bogart and James Cagney of the Sixties—in the same film. Shame on you, Merry MacTavish.

Michael Sakara
Jim Thorpe, Pennsylvania

TEX SPEAK

Just for the record, I thought you should know that THX1138 (known as Tex to his friends inside) escaped from his motorcycle-riding, chrome-plated, leather-clad android pursuers in a four-wheeled vehicle that looked more like a fiberform, bolt-on-bodied Volkswagen than anything else. One of the chrome baddies wiped out after running over some traffic cones left around by a maintenance worker. The whole chase scene took place in a tunnel resembling the Lincoln Tunnel in New York City. Tex does get away, but on a ladder—not a motorcycle. Sorry.

Eric R. Schmid
The Dalles, Oregon

Why be sorry when you're right?—ed.

BE SORRY WHEN YOU'RE WRONG

I just finished "Moto-Moviola" in your May issue and I think you owe CBS an apology. "The Waltons" has on several occasions shown the local store owner riding an old bike with a sidecar. The show also devoted an entire segment to one of the young men of the show, in which he was shown doing stunts and trying to win a local cross-country race. I don't believe their handling of motorcycles in any way degrades bikes or their riders.

George R. Gilliland
Hawesville, Kentucky

BLOWN HEAD GASKET

Your performance chart on the KZ750 in the May issue was blowing my mind until I compared it to the CR250R's. Sure enough, samo-samo. I was trying to figure out how the 750 lost about 20 horsepower getting to the rear wheel and other strange phenomena revealed in that graph. Please don't do that to me again.

R.W. Wilson
Farmington, New Mexico

Deal—ed.

GETTING DONE IN BY THE NUMBERS

I realize that Japanese technology is advancing

rapidly, but I am amazed nevertheless that a 471-pound KZ750 Four can manage a 12.50 in the quarter-mile while a 397-pound GS450ST can only produce 14.09 with 28.6 horsepower. Has Kawasaki finally managed to fool Father Physics? Or is there a misprint in the horsepower and torque figures for the Kawasaki KZ750/4 Road Test on page 54 of the May issue?

Alexander Ward
Boca Raton, Florida

The only fooling was performed by the print-shop gremlins. And you'll find the correct figures printed on page 31 of this issue—ed.

THEN CAME HARLEY

About the "Moto-Moviola" article, just one question. Perhaps my share of spills has rattled my brains loose or perhaps trivia isn't really your thing, but in the "Then Came Bronson" series on NBC—you stated that he rode a Harley Sportster. Maybe it was just the dubbed-in engine noise, but it seems to me that he rode a Norton. Is it me or is it you?

Leslie J.
Ballston Lake, New York

It's you—ed.

A ROUND FOR THE HOUSE

I want to add my name to your order to Yamaha requesting RD350 L/Cs. The only thing worse than missing out is not knowing what you're missing.

Hal Babcock
Rockford Michigan

BIG LOSER

I was set to have a big-bore kit and the like added to my KZ1000 for more speed when I read your Road Test on the new KZ750/4. And then I found my answer. Reduced weight is all that's needed for a faster, better-handling motorcycle. So all I have to do is lose a lot of weight. I am six feet tall and weigh about 300 pounds. I start my diet after I finish writing this letter. I promised myself that I could lose 100 pounds by this time next year. And then I'll say to hell with the KZ1000; bring on a real superbike—the KZ750/4.

Peter Burns
Ankeny, Iowa

Take two; they're small—ed.

BECAUSE IT'S THERE

May I impart my deepest condolences to Steve Thompson and his Norton restoration project. Welcome to the Restoration Club, I think.

A little over 10 years ago I started a similar project, except that I decided to do it myself. It probably cost me five years worth of not riding my beloved Triumph 650 production racer.

I purchased this orphan—quite by accident—after it stowed away in 10 dubious-looking cartons aboard a tramp steamer out of Liverpool, England. I was confidently assured by the English gentleman that "all the parts were here" and that it would be "as easy as falling off a log" to place everything in fighting status and make it "fully restored." The minor problem that *no* factory manuals were available did not seem to bother me in my temporary state of euphoria. I also failed to notice that there was no seat to be seen and that the gas, er, petrol tank had been smashed beyond reasonable repair. It turns out that the bike had been badly damaged in its last race in 1969.

Well, despite the fact that I've only found two black-and-white photos indicating the original lines of this piece of racing history, I am now near concluding this nerve-wracking project. The anticipation of riding this beast fast is hard to endure.

Now you may ask as I finish this seemingly impossible task of restoration if I would do it again. Never . . . I think.

Keith Bubenicek
Hayward, California

A PAIR OF SPOTS

I want to let Michael Jordan know that his May editorial on high-performance riding hit the spot. Anyone who even knows what a motorcycle is should read it, think it out and put it to use. I am 16, own an RD400 and am a learning and improving *performance operator*. And as for my order, I'd like an RD350 L/C to go.

Nick Hasselblad
Sublimity, Oregon

So say we all—ed.

BIG "S" ON HIS CHEST

I just finished reading the April issue, or more accurately, the Road Test on the GS1100. Michael Jordan did his usual excellent job of reporting the good and not-so-good points. Only this time, no bad points. Natch. What else would Suzuki do? I was pleased to read that Suzuki didn't sacrifice any of the ride or handling of the GS1000 to get more speed. Beautiful.

Paul Dean gets full points for telling it like it is in the comparison with the CBX. In fact, as far as I'm concerned, any Honda loses against any Suzuki of the same displacement. Period. As you might have guessed, I am a die-in-the-saddle Suzuki man. When I ride my GS1000EC down the main road, I know I've got the best. Enter the GS1100. Well, I will gladly push over for Big Brother's speed. But I don't think that any liter-plus bike can outhandle the GS1000 on a long run around Cape Briton's Cabot Trail.

John Inch
Nova Scotia, Canada

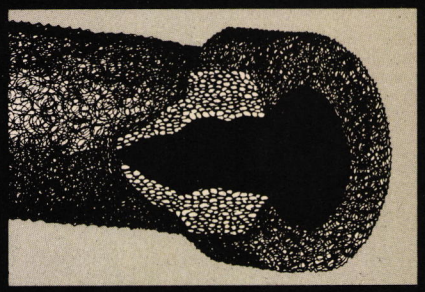
LEAVING THE ALTAR

Your article in the April issue on the GS1100ET was certainly quite impressive. I also agree that there is, at present, no bike that could surpass the big Suzuki on all points. But I would like to question the main theme of that test, that of worshipping at the altar of speed. I kind of had to scratch my head over that one. I wonder if you really understand what you're pushing here.

I would like to warn all motorcyclists that this altar of speed is very dangerous. It will either get you on the road by using too much speed and getting killed, or at home, by spend-

Continued

10,000 Tiny Shocks in Every Grip!



In this cut-away view you can see the tiny closed cells that act as shock absorbers for hands and arms. The tough closed cells can't absorb water so ***GRAB ONS*** *don't get soggy when it rains. Water or perspiration that accumulates on the surface is quickly evaporated by air movement.*

Here's a grip *SO REVOLUTIONARY* it's hard to believe...but using it *IS* believing!! Each grip contains over ten thousand *NITROGEN-CHARGED* cells which act similar to the gas shock absorbers used on sophisticated motorcycle and automotive suspension.

GRAB ON™ GRIPS

A product of **NEOTECH** Walla Walla, WA 99362

WE PLATE MOTORCYCLE PARTS ONLY

Chrome & Gold

Free Price List

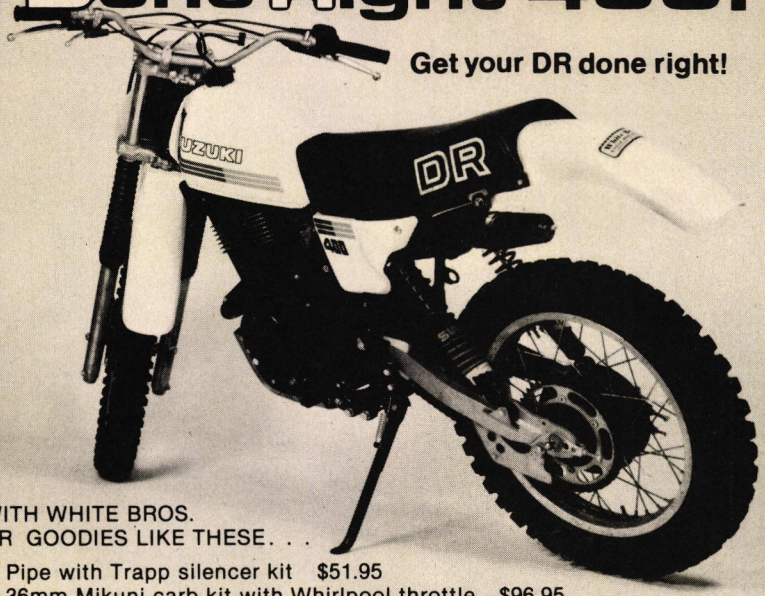
GIVE MAKE OF CYCLE

BROWN'S™

PLATING SERVICE, INC.

Route #5, Box 534
Paducah, Kentucky 42001
Phone 502-554-1146

A SUZUKI
Done Right 400!
Get your DR done right!



WITH WHITE BROS.
DR GOODIES LIKE THESE. . .

- Pipe with Trapp silencer kit $51.95
- 36mm Mikuni carb kit with Whirlpool throttle $96.95
- 10½ inch fork kit $39.00
- 10½ inch travel S&W shock kit $132.95
- 10½ inch travel Works Performance shock kit $185.00
- 410cc cast piston $37.95
- 410cc forged piston $59.95
- Super horsepower cam $69.00 (with refundable $46.00 core charge)
- Heavy-duty valve springs $25.95
- Extended air fork caps $19.95
- Banana swingarms available in late July!

11611 Salinaz Dr. Garden Grove, CA 92643 714-638-1653
or send $2.00 for our complete accesory catalog.

White Bros
CYCLE SPECIALTIES

THE RATCHLOK™
NEW TOOL OF THE 80's

"Just like duct tape in the 1960s and Armor All in the 70s, one can expect the RATCHLOK to become a universally accepted part of the biker's equipment inventory."
CUSTOM BIKE magazine, August 1980

Not just any tool should touch that special bike of yours. The precision RATCHLOK is made specially for the motorcyclist. Unique RATCHET ACTION, POSITIVE-LOCK jaws grip on four sides of a hex. **No slip** under 150 ft./lbs. torque! **No jaw serrations** to mar special **chrome, brass** or **aluminum** custom finishes. ADJUSTABLE RATCHLOK replaces metric and standard wrenches. Dozens of tools in one, versatile RATCHLOK is just what motorcyclists need to protect super-clean finish. **Ideal for road riders,** the RATCHLOK replaces bulky tool kit with just one tool!

- **ADJUSTABLE** - fits standard and metric sizes from 3/8" to 1-1/8" - once adjusted to a given size, adjustment will not change during use.
- **RATCHET ACTION** - features ratchet capability on fittings from 3/8" to 1" which allows it to be used like a complete set of sockets. Reduces installation time.
- **FABRICATION** - plated, case hardened, tempered carbon steel.
- **ONE YEAR WARRANTY** - against material defects and workmanship.

- **MONEY BACK GUARANTEE.**

RATCHLOK is a trade mark of and is manufactured by SUMMIT TOOL CO.
4150 Fox Street, Denver, Colorado 80216.

Order direct from Summit Tool Co. No postage or handling charges.

Summit Tool Co., P. O. Box 16610, Denver, CO 80216
Please send me _____ RATCHLOK tool(s) @ $19.95 each (Colorado residents add state and local taxes).
Enclosed is my check or money order for $ _____ (Do not send cash)
Or charge your purchase to your VISA or Master Charge.
Account No. _____ Expires _____
Name _____
Street _____
City/State/Zip _____

ing too much time with your bike and neglecting your spouse, kids and family.

You see, this speed that you think quite highly of is not only being registered by the professionals' minds—the ones who know how to use it—but also by teens. Young men and women who will try to worship at this altar of speed with skills and bikes that won't stand up and who will kill themselves trying.

Maybe there should be a little more safety emphasized rather than speed. What do you think?

Paul K. Waite
Kendusleag, Maine

That you should read the May editorial. Improperly handled, any bike can get you into trouble; some are good enough to get you out of it—ed.

SMALL REQUEST

Can you steer me in the right direction to get some addresses of manufacturers or distributors of mopeds, preferably those manufactured in the U.S.?

Larry Ochs
Palmer, Massachusetts

Okay, and no one will even ask why. Contact Moped Dealer at 370 Lexington Avenue, New York, New York 10017—ed.

SHINE, SIR?

Larry Works is full of prunes on his impression of the GS450ST vs. the ET. It's not the ET's high handlebar and mirrors that turn him on but the sparkling chrome fender. He's fooling no one.

Phil Cheney
Guilford, Connecticut

Maybe not, but you've been fooled if you think the handlebars are different. They're the same—ed.

ZEE CHALLENGE

I recently read the Road Test results on the 1980 Z1-R. Well, I was a little put out when I first heard that Kawasaki was coming out with the bike, but I think your riding staff was a little short with the '78 Z1-R.

First of all, to Michael Jordan: If my '78 isn't "fast" as you say, how come I walked away from everything I've raced, including the '80 Z1-R?

Secondly, to Larry Works: The '78 not handle well? You must be joking. The original rear shocks were the pits, but with the aid of my Force 1 shocks I'll be glad to scrape pegs with you and we'll see how well it "doesn't" handle. I'm ready with my '78 anytime you're ready with your '80.

A.G. West
Glendale, California

Neat trick, comparing two bikes when you've only ridden one. Is it done with mirrors?—ed.

AN OBVIOUS FRAUD

Enjoyed your piece on the Z-bike fuel injection in the May issue. Just one question: Will it adapt to my '58 Horex?

Harold Shimstock
Gumout, Wyoming

It must get awfully dark in that closet—ed. ●

THERE IS A DIFFERENCE BETWEEN SIMPLE RADAR DETECTORS AND ALL OUT ELECTRONICS WARFARE.

"In several thousand miles of testing, I didn't get one false alarm."

"The unit performed reliably during our riding test as well as operating perfectly after dropping it about four feet on a concrete floor."

"It can be left on the bike regardless of the weather."

"In performance, the Gypsy is one of the best units on the market, including all the ones designed for cars and trucks."
—Rider Magazine, Dec. '79

"Where the radar trap was over a hill, behind an overpass off the road at an angle, blocked by a building or pointed in the same direction as the detectors, the Gypsy Scout performed significantly better than the Fox, giving as much as twice or three times as much warning time."

"An effective radar detector can pay for itself in one day ..."
—Motorcyclist, November '79

GYPSY SCOUT RADAR DETECTOR

"While there are a great number of radar detectors on the market, there's one that stands out for motorcyclists, because it's designed for motorcycle use."

"Never, during the time the Gypsy Scout was mounted on a motorcycle, did the rider get a ticket for speeding..."

"... best of all, it works."
—Cycle World, April '80

There are only four Radar Detectors on the market which honestly neutralize the peril of pulsed K-band radar. Our two Gypsy models and two Superheterodyne receivers. And all four are hard to get.

Our radar detector costs much more to build than ALL of the popular passive receivers. If we distributed them through several levels of distribution, like the automotive distribution system, our unit would cost over four hundred dollars. I keep the distribution efficient and the retail price low because I intend to sell a Gypsy Scout or a Gypsy Phantom to protect every superbike owner.

And of course, the Gypsys work great in trucks and cars because they are not only HIGH PERFORMANCE, but they are also by far the most rugged microwave equipment ever built.

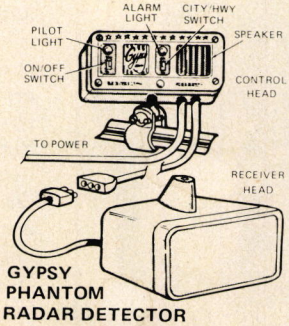
You might conclude that we have great pride in our product. Well, I'm proud and so are the motorcyclists who build them in our factories under the direction of some of the best electronic engineers in the world.

THIRTY DAY MONEY BACK GUARANTEE. You'll have time to determine whether our expensive units are worth the money. If you stick with the Gypsy it should outlast any motorcycle. And if it doesn't, we have 48-hour repair service.

Ride Safely,

Chuck Fowler

Chuck Fowler
Biker, and president



GYPSY PHANTOM RADAR DETECTOR

- ☐ Gypsy Phantom Radar Detector $198.00
- ☐ Gypsy Scout Radar Detector $169.25
- ☐ Police Radar and Radar Detector Handbook ..... $ $2.75

*All mounting hardware and lamps included
California residents add 6% sales tax

Name _____

Street _____

City _____ State _____ Zip _____

Mastercharge/Visa # _____

Expiration Date on Card _____

Phone _____

Highway Drydock Corp., 1345 N. McDowell Blvd., Petaluma, CA 94952
Telephone orders welcome: (707) 778-7000
Dealers welcome

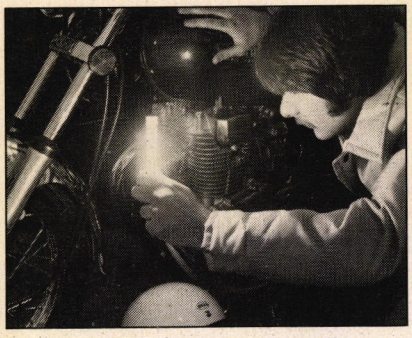
VISA

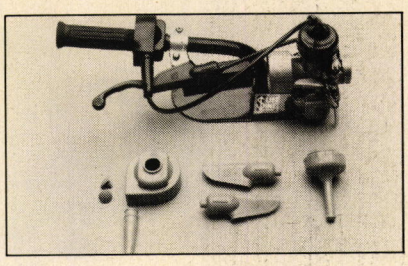
master charge THE INTERBANK CARD

Motomart

Whetting the aftermarket appetite

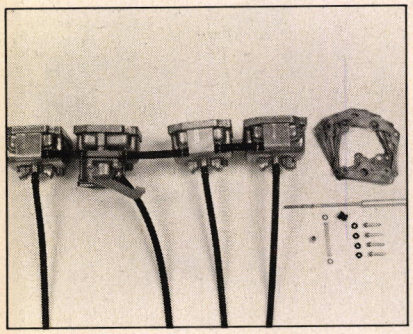
Night Light: A Cyalume lightstick probably won't light your fire but it could prove useful in a nighttime emergency. The cigar-sized lightstick is claimed to be windproof, waterproof, flameless and non-toxic with a visibility of about one mile on a clear night. The lightstick can be stored unopened up to four years and the yellow-green glow can last up to 12 hours. For more information contact Clem Kohlman at the American Cyanamid Company, Chemical Light Department, Dept. CG, Wayne, New Jersey 07470. You might light up his phone by dialing (201) 831-3007.





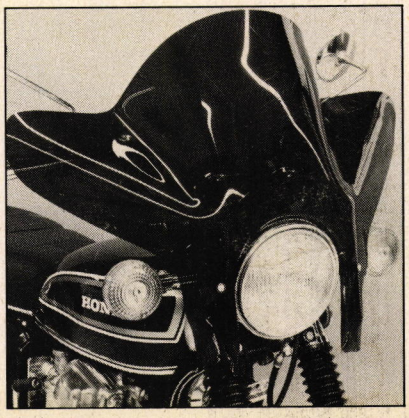
The Protectors: Sun Line, Inc. is marketing a seven-piece set of vinyl covers designed to protect vulnerable areas in your bike's mechanical control system. These are points where water and dirt can sneak into the clutch and front brake cables or the entire throttle assembly to cause wear, corrosion or seizure. Pieces included are a throttle housing cover, throttle cable cover, carburetor cover, cable adjuster covers and handle-grip hole plugs. The Protectors are available in red, yellow, black, green and blue for $12.95 (California residents should add six-percent sales tax). To order, write Sun Line, Inc., 7045 Darby Avenue, Dept. CG, Reseda, California 91335. You might protect yourself by dialing (213) 705-8811.

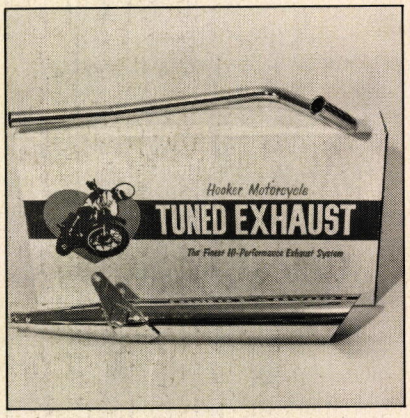
Spring Fever: What does a doomed poppet valve have in common with a dead fish? They both float. And while limp fins are beyond redemption, valve float isn't. You hyperbikers know the importance of effective valve control, and now S&W is trying to help with its line of high-performance valve springs. S&W makes its springs from chrome silicone wire that is shot-peened and heat-treated for claimed molecular stability. The folks at S&W say they make valve springs for all types of motorcycle engines from single-cylinder thumpers to shrieking multis. For more information see your S&W distributor or contact S&W Engineered Products at 2617 West Woodland Drive, Dept. CG, Anaheim, California 92801. Or call (714) 527-1641.



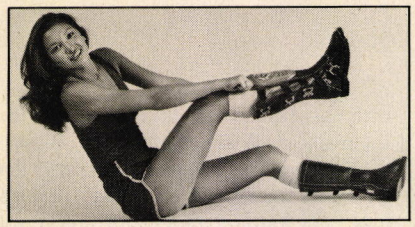
Mikuni Pump Kit: JAM Trading, Inc. is marketing a Mikuni float-bowl accelerator pump kit for four-cylinder carburetors. It is claimed to fit all VM29mm smooth-bore carburetors, plus the carbs on late-model Kawasaki and Suzuki fours. The kit includes an adjustable integral pump in one float bowl plus the necessary plumbing, nozzles, O-rings, gaskets, linkage, hardware and instructions. Installation includes drilling four holes through the mixing-chamber body into the venturi area (the guide holes are already cast into the carburetor body). Then the location of the pump nozzles permits use of both stock and aftermarket air filtration systems without interference or cutting. Suggested list price for this pump kit is $76.79. Contact JAM Trading for further information at 6301 De Soto Avenue, Unit E, Dept. CG, Woodland Hills, California 91367. Or call (213) 346-7332.

For Ill Winds: Trees may not be bowing down their heads but the wind is still passing you by. To help channel this wind out of your way, C-F Incorporated has introduced the SS-20 Sport Fairing. It features European styling, one-piece acrylic construction and a universal mount. The seven-pound fairing is available in clear or smoke-tint lucite. The folks at C-F claim an installation time of approximately 15 minutes and they say there are no modifications necessary to the motorcycle when fitting the SS-20. Suggested retail price for the clear fairing is $79.95; the tint will cost you $85.95. For more information contact C-F Inc., 869 Pierce Butler Route, Dept. CG, St. Paul, Minnesota 55104. The phone number is (612) 489-8056.



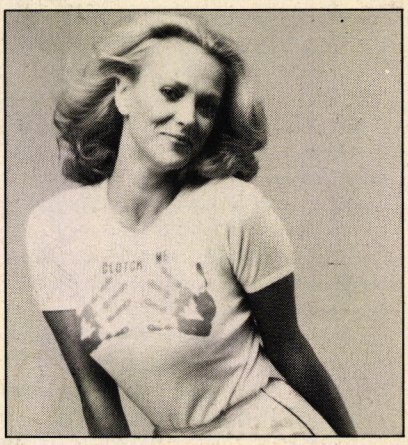


For Kawasaki From Hooker: The words *high-performance* and *200cc* aren't used in conjunction with each other very often. Neither is the concept of spending big bucks on a little bike. But if you have a KZ200 you might check out Hooker Header's high-performance exhaust system. Hooker says the header is dyno-tuned to provide a wider range of useable horsepower with good sound control. Mounting hardware is included, along with installation instructions and Hooker Header decals. This exhaust system is available from many dealers, but for more information you might contact Hooker Headers at 1032 West Brooks Street, P.O. Box 4090, Dept. CG, Ontario, California 91761. If you're too exhausted to write, call (714) 983-5871.



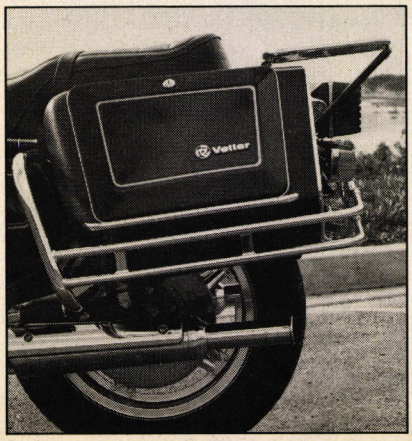
The Motocross Fox: These SuperFox boots from Moto-X Fox might carry the slogan, "If it feels good, wear it." The people at Moto-X Fox say the boots include a lightweight, impact-absorbing plastic shin plate, a waterproof flap guard, a buckle design that hooks up easily but won't come undone during competition and four different kinds of leather in different locations for the right balance of comfort, protection and sturdy construction. These SuperFox boots are available in smooth motocross soles or cleated enduro soles. You can get a pair from a Moto-X Fox dealer or directly from Moto-X Fox at 520 McGlincy Lane, Dept. CG, Campbell, California 95008. If the post is too slow call (408) 371-1221.

Arai's MXer: Arai Helmets has added the RMX motocross helmet to its line of Snell 75-approved helmets. Features include an adjustable face guard that can be moved up and down or fore and aft to suit the rider's requirements. If desired, the guard also can be removed. Arai says the helmet interior is made with washable material sewn over foam, allowing repeated washings and dryings. A five-snap visor is included with the helmet. List price for the RMX is $114.95. For more information contact Arai Helmets, P.O. Box 421, Dept. CG, Tenafly, New Jersey 07670. Or call (201) 567-5707.



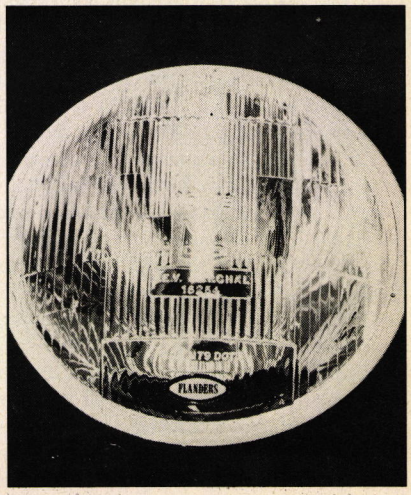
Barnett's Garment: The latest clutch from Barnett Tool and Engineering is made of polyester and cotton. The back of this french-cut T-shirt carries the qualification, "With BARNETT Clutches." It comes in light blue in sizes Small through Large for $9.95. Put your clutches on this shirt by writing Barnett at P.O. Box 2826, Dept. CG, Santa Fe Springs, California 90670. If you can't wait, phone (213) 941-1284.

Rear Safety System: If you've ever been concerned with the safety of your detachable luggage, you might consider buying a rear safety system from Markland Industries. It is designed to protect Vetter, Hondaline, Samsonite and Krauser luggage, and allows you to open the luggage even when it's mounted. Markland's people say the system is constructed of steel with wrap-around heliarc welds at all junctions. The unlighted system is priced at $135, with optional side lights or wrap-around side- and back-lighting systems available at extra cost. Contact your dealer or Markland Industries at 1501 East McFadden Avenue, Dept. CG, Santa Ana, California 92705. The phone number is (714) 541-2681.



Thirst Quencher: When you need to whet your whistle and there isn't a drop in sight you might set your sights on carrying a Snappi-Jug. The manufacturer, NEP Sales, says the polyethylene construction of the one-quart jug makes it unbreakable. The opening is large enough to accept ice cubes, and there is no mounting hardware required because the Snappi-Jug snaps onto your motorcycle's handlebar. See your dealer or contact NEP Sales, Inc. at 3439 Ocean View Blvd., Dept. CG, Glendale, California 91208. Or call (213) 248-8402.

Bright And Legal: The light at the end of the tunnel just might be coming from Marchal's seven-inch quartz-halogen headlight distributed by Flanders. A standard H-4, 12-volt bulb is used in the light but it can also be ordered with a 6-volt bulb. If your motorcycle is 500cc or larger this light can show you the way. It is designed and approved for motorcycles and meets the standards of the California Highway Patrol and D.O.T. standards for highway usage. Ask for Flanders part number 378-48503 at any motorcycle dealer or write to the Flanders Company at P.O. Box 2297d, Dept. CG, Pasadena, California 91105.



Techspeak

Law Of Averages

In the end, it's how you ride, not what you ride, that counts

• If you are an average motorcyclist, your average ride is 11 miles long and you ride it at an average of 34 mph. If your motorcycle is equally average it will pump 212 grams of carbon monoxide and 88 grams of hydrocarbons out of its exhaust system. How do we know? The Environmental Protection Agency told us.

You should pay attention to those figures, because when a government agency knows that much about you, it must be planning something. In this case the EPA calculated those figures so that it could start regulating motorcycle exhaust emissions. Ever since January of 1978 your street bike has had to meet those emissions regulations, measured during a governmentally average ride called the EPA Driving Cycle.

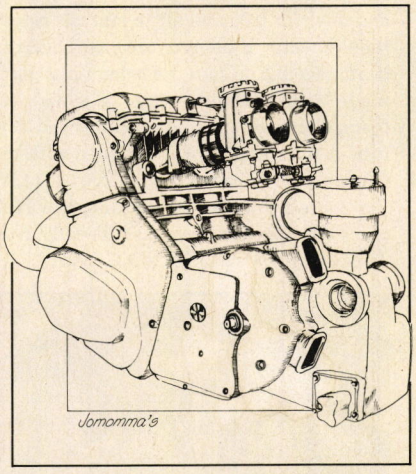
This average motorcycle journey depicted by the EPA was calculated from hundreds of motorcycle journeys. The EPA looked at speeds, distances, gearchanges as well as braking on freeway and surface streets to establish an average trip in which the maximum speed did not exceed 57 mph.

All these figures were then transferred onto a graph that plotted time against distance. The result was a wandering line that looked like a relief map of the Sierras, with each slope representing an acceleration or a deceleration of the motorcycle during its average ride. This gave the EPA a standard operating cycle that each new engine could be made to follow precisely while its exhaust emissions were measured.

The actual job of measuring and testing is done by the motorcycle manufacturers themselves. In a process of self-certification, each company tests its new models and supplies the results to the EPA for approval. Testing each machine is a complex job, because the slightest variation from the EPA Driving Cycle nullifies the results. Actual street testing is therefore out of the question and all work must be done in the controlled conditions of a laboratory.

Inside the lab a complete motorcycle is bolted down to a sophisticated dynamometer. Not only must the dyno be able to exert a load on the machine's rear wheel, it must also recreate the effect of a bike freewheeling along with a closed throttle. That simulation can be produced with large flywheels bolted to the dyno rollers, or more accurately with an electric dyno that can both power the rollers as well as absorb power from the motorcycle.

The dyno rollers are connected electrically to a cooling fan that can reproduce



the cooling breeze of road speed. This is important, since the temperature of the engine can alter exhaust emissions considerably. The size and power of the cooling fan is therefore specified by the EPA.

Actually operating the motorcycle to follow the EPA Driving Cycle is where the fun starts. While every last measurement is done by computer, the job of operating the motorcycle comes down to a single person. He must sit on the machine to twist throttle, squeeze brakes and change gears as the EPA Cycle dictates.

The actual graph of the EPA Cycle is run through a display at the rider's side, and as it starts to roll, he works the bike so that it exactly follows the graph. There is no room for mistake here. An ink trace of the machine's speed is printed over the Driving Cycle graph and the tolerances for error are very small indeed.

To make life a little easier, the computer measuring all the machine's functions presents a display of the EPA Cycle on a television monitor. It also displays a gun sight that represents the motorcycle engine's speed. As the EPA Cycle is run through the computer and the display unfolds across the screen, the operator has to try to follow it with the gun sight. Opening the throttle moves the sight across the screen in one direction; closing the throttle or braking moves it in the other.

It becomes something like a video racing game at the fairground as the operator tries to keep a model motorcycle on the right track. Unlike the fairground TV games, however, the EPA test is strictly business.

What is most significant about the whole test procedure, though, is that most machines never use full throttle. To keep up with the graph, a large bike rarely gets near the main jet. Which explains why most of the jetting quirks imposed by the stringent EPA tests occur only at small throttle openings. Long warm-up times are a direct result of lean jetting at part-throttle openings. Flat spots in the same part-throttle positions are also due to lean jetting.

While each manufacturer must notify the EPA of the maximum total emissions from the tests, anything not measured during the EPA Driving Cycle is effectively unrestricted. That is why main jet settings are far less critical for the test and why your machine rarely shows signs of flat spots above half-throttle.

Also, the present test only specifies the maximum quantities of carbon monoxide and hydrocarbons in the exhaust gas. But six different samples are taken to measure them. That is because the test is run in three segments and two measurements are made during each. One run lasts for 505 seconds as the motor warms up; and the second continues immediately for 869 seconds once the motor has reached a stable temperature. The motor is then allowed to cool off for 10 minutes before the final 505-second run is made.

During each of these three phases the exhaust gas is collected and mixed with a specific quantity of air. Each sample is then collected in a bag for analysis. The remaining three bags are used to take air samples from the test laboratory to check that the air the engine is breathing is not already measurably polluted.

When that is all verified the exhaust gases can be accurately measured to insure that there are no more than 5 grams/kilometer of hydrocarbons and 12 grams/kilometer of carbon monoxide. So far most companies have been able to meet these standards with lean carburetor jetting and altered ignition curves. But up to now, these solutions have been largely Band-Aids, patchwork intended to prolong the life of engines and motorcycles designed in pre-EPA years. There's a new generation of EPA-pleasing motorcycles on the way, though, and it can be seen in innovations like Kawasaki's air-suction system and electronic fuel injection, and in Suzuki's Twin Swirl Combustion Chambers. So even though we have to live with motorcycles that have a hitch in their carburetion, there's every reason to believe the EPA's average motorcycle journey will not create average motorcycles. —*David Dewhurst*

Setting It Right

Into The Wind

Mother always told you to sit up straight. Mother was no biker

• In a surprising bout of parental generosity that had no precedent—and unfortunately established none—I was offered a choice of presents for my twelfth birthday: a side-by-side 12-bore shotgun, or a bicycle. It took me years to realize my mistake: I should have taken the gun and shot the fellow whose bicycle I coveted.

It was a lovely machine, although not up to the standards of my current Holdsworth, but good for its day, with a chromoly frame, light-alloy everything else and the same built-in potential for pleasure as I nowadays look for in a CBX or Dunstall Special. I ran into trouble with its handlebar, however, which was of the Randonneur pattern, dropping as low as the narrow saddle rose high. It all seemed perfect to me, but The Powers told me in no uncertain terms that the riding position thus determined was most unseemly.

The argument was supported by evidence from the horsey world. Jockeys and similar menials, it was explained, crouched when riding their horses. Gentlemen sat upright. In vain I pointed out that in those particular circumstances it was the horse that was doing the work, whereas LJKS was going to have to pedal himself along and needed to pull against a handlebar appropriately located. I had my own way in the end, but it was a very long fight.

I could not help but be reminded of all this some years ago when one of those nitwit politicians suggested in all seriousness that dropped handlebars on motorcycles should be made illegal. As I see it, the answer to all politicians who have so sadly influenced the riding positions of motorcycles is to flagrantly defy the speed limit. Because every rider who obeys the speed limit makes it more difficult for me to get comfortable on any machine I ride.

You see, just as in the case of the gentleman on horseback who let his steed do all the work, so it is assumed that in the motorcycle the engine saves him from exertion. Therefore, the politicians assume, the gentleman motorcyclist also sits upright. If he rides no faster than he would on horseback, the approved sit-up-and-beg postures will do him no harm; but should he take the not-unreasonable view that, time being precious, he ought to go as fast as the machinery makes it possible for him to go, then he will have to exert himself strenuously just to hold himself on his motorcycle—and do himself a lot of harm in the process. After 90 years of what ought to have been the evolution of the motorcycle, we ought by now to be comfortably draped over machines cruising at three-figure speeds as a matter of course. Instead we sit upright, restricted to speeds not much better than one can achieve on a horse or bicycle.

Sitting upright at high speeds is too much of a strain and, if you ask me, too ludicrous a limitation on the use that can be made of the machine that we have created to extend the limits of our own mobility. Given a sufficiently powerful machine, a rider seated upright has his maximum speed determined by the strength in his fingers, upon which he must rely to prevent himself from being blown off the back of his motorcycle. After a while, his neck muscles may impose a lower speed as they grow fatigued from pulling his head forward and his chin down to oppose the wind that seeks to tear his helmet and head from his shoulders. And so does brute force enter the speed equation.

The strong man may rejoice today that he can ride faster than the weakling, but it was not to preserve such distinctions that the egalitarians of the industrial revolution brought us into the machine age. Like the single-action Colt .45 of the American West, the internal combustion engine should be a great equalizer. There is no sense in creating an engine to work for you and then having to work hard in order to use it. In principle, a frail little old lady ought to be able to ride a motorcycle as easily and as fast as a champion athlete.

As it is, I find it hard to justify powerful motorcycles whose makers believe that man should ride upright like a gentleman. I have just been riding a bike that one could consider decently powerful—the Suzuki GS1100. The instant acceleration is just as marvelous as on other hyperbikes, and after a while it becomes just as natural to use all of it. But as far as maximum speed is concerned, the GS1100 after the first few minutes is no faster than the GS550. That is because the same neck and fingers—mine—impose the same comfortable limit due to the riding position.

Of course, I am weaker than a lot of people. I am also stronger than a lot of people, any of whom ought reasonably to expect that, having paid honest money for a high-horsepower bike supposedly capable of achieving more than 130 mph, it should be feasible in fact to *maintain* more than 130. As the gentlemen say, the rider should not have to work as hard as the horses.

—*L.J.K. Setright*

TUFF-ONE NYLON

SPROCKETS and KITS

The TUFF-ONE Nylon Sprocket is made of DuPont ZYTEL ST which is stronger than other nylon sprockets and is lighter than steel or aluminum. Quiet running, the TUFF-ONE increases chain life. Individual rear sprocket or matched kit with steel countershaft sprocket and self-lube chain.

MOTORCYCLE Cruise Control

Reduces hand fatigue. Installs in minutes using existing handlebar grips. Made of heavy-duty black Nylon.

NEP SALES, INC.

Quality Motorcycle Products

3439 Ocean View Blvd.
Glendale, CA 91208
Phone: (213) 248-8402

NEP SALES

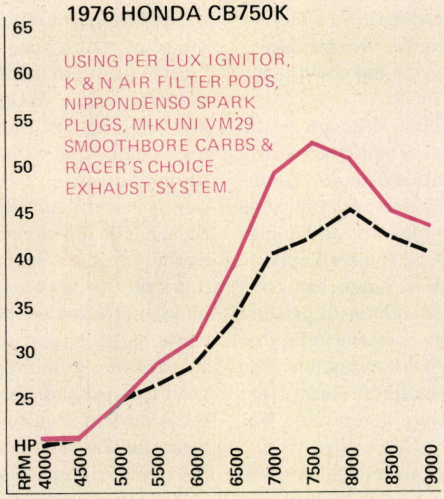
HONDA POWER!

FROM TEAM PERFORMANCE

SUPERBIKE TUNING MANUAL

WHAT IS IT?

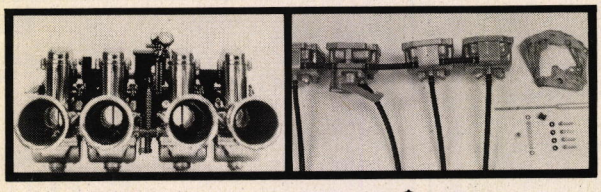
The TEAM PERFORMANCE SUPERBIKE TUNING MANUAL contains up to date product testing and DYNO reports on the top Superbikes, PLUS product cataloging, information and tuning tips on the most sought after High Performance bolt-on parts and accessories that are available! Names like Mikuni Smoothbores, K & N, Dunlop, Performance Lab, "TP" Steering Head bearings, Ignitors, Racer's Choice headers and Superbike Bars to name a few. The knowledge and information contained in the manual will serve as a universal guideline irrespective of what motorcycle or whose aftermarket products you may choose.



RPM	STOCK	TP
4000	20.5	21.2
4500	21.2	21.2
5000	24.3	24.3
5500	26.5	28.0
6000	28.6	30.2
6500	33.9	39.9
7000	41.0	49.6
7500	43.2	52.9
8000	45.3	51.8
8500	43.2	45.3
9000	41.0	43.2

ALSO
KAWASAKI
SUZUKI &
YAMAHA
POWER TOO!

"TP PRODUCTS OF THE MONTH"



$333 list **$ 79 list**

Mikuni VM29 Smoothbores plus "Factory- Mikuni Pumper Kit." Fits all Smoothbores and Kawasaki/Suzuki Fours using VM type 26 & 28mm carbs.

ADVISORY STAFF MEMBERS

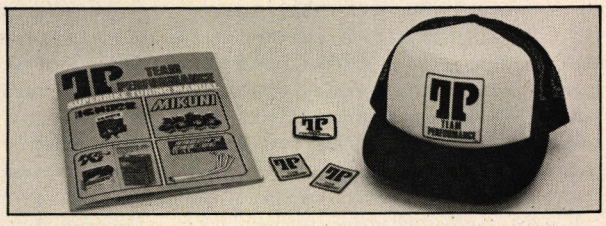
Any team is only as strong as its members, and Team Performance members are the best and most respected in the business! The "TEAM PERFORMANCE ADVISORY STAFF" members are: Kenny Johnson (K & N Engineered Products), Rudy Galindo (Superbike Bars, Inc.) Jerry Kono & Dave Allgeier (JAM/Mikuni), Mack Jones (M.A.C. Products/Racer's Choice Headers), Joe Rich & Cary Hassbaum (Dunlop Tire Co.), K. Harada & Kay Nishi (Mikuni America), Scott Yamada (Nippon Denso), Otto Jackson (Performance Lab Octane Booster), Scott Tompkins & Lou Hemphill (Per-Lux Ignitor), Niles Dally (D.I.D. Motorcycle Chain), Jim Oakes (Circle Industries), Ron Scrima (Exhibition Engineering), Russ Westberg (Serv-Equip), Bob Carlson (Carlson Co.), and Frank T. Miyake & Larry Chmura (FTM & Associates).

ADVISORY STAFF

TEAM PERFORMANCE

IGNITOR · SERV-EQUIP · DUNLOP · CIRCLE INDUSTRIES · JAM Trading Inc · PERFORMANCE LAB · SUPERBIKE BARS · MIKUNI · THE CARLSON COMPANY · EXHIBITION ENGINEERING · RACER'S CHOICE · M.A.C. PRODUCTS · DAIDO CORPORATION · K&N FLOW AIR FILTERS

"SPECIAL INTRODUCTORY OFFER"



YES! Send me ( ) "TP SUPERBIKE TUNING MANUALS" @ $10 ea. postage paid in U.S. Plus my FREE "TP" Team Hat, racing decals & jacket patch. (A Special $10 redeemable Gift Certificate may be substituted in place of the Team Hat) I understand that if I am not 100% satisfied I can return the complete package within 10 days (postage prepaid) for a full refund.
Circle: "TP" Team Hat or $10 Certificate
Total Amount Enclosed $_____. Calif. residents add 6% sales tax.

signature _____

name _____

age _____ ( ) phone _____

address _____

city _____ state _____ zip _____

master charge/VISA/bankAmericard number _____ exp. date _____

(Circle one and list account number)

NOTE: Money orders or personal checks ok, however, allow 4 wks. for delivery on all personal checks. All others will be shipped immediately. Outside of U.S. add $2.

TEAM PERFORMANCE

6301 DeSoto Ave. unit "E" Woodland Hills, CA 91367

(213) 346-7337

GUIDE LINES

Cycle Guide's Monthly Chronicle of Scoops, Tips, Rumors and Hard Facts

BY LARRY WORKS

COMING SOON

• The **British** motorcycle industry has long been known for producing twin-cylinder street bikes, but the latest offering from England didn't spring from the same mold as the Norton Commando or the Triumph Bonneville. A little more than two years ago, Lord **Hesketh**—of F/1 car racing fame—turned his talents to the design and construction of a new **superbike**. The bike has come from the drawing board onto the pavement and is called, appropriately enough, the Hesketh 1000.

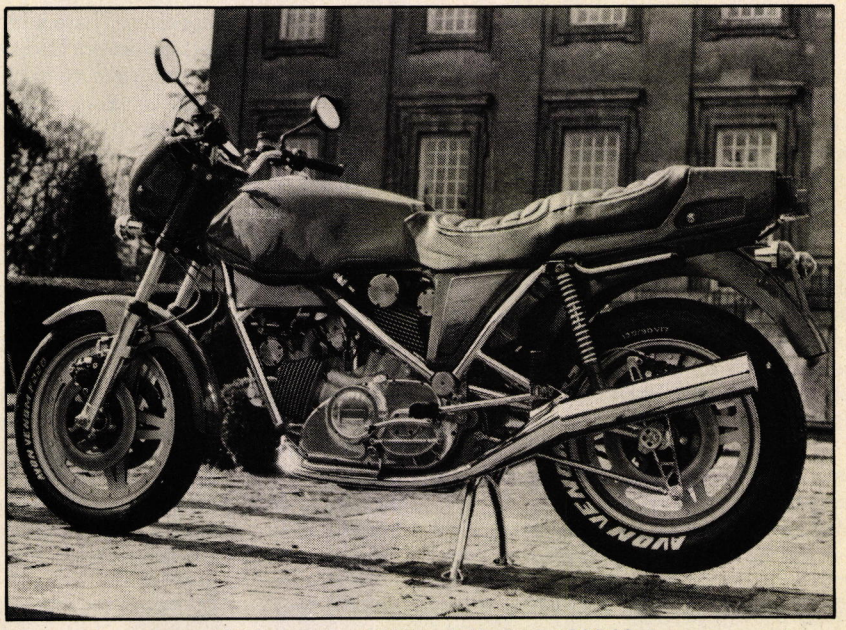
Powering the Hesketh is a 90-degree DOHC **vee-twin** with **four valves** per cylinder. Primary drive of the **992cc** twin is via helical gears, the ignition is Lucas electronic and the fuel gets misty through a pair of 36mm Amals. The **five-speed** powerplant reportedly spins out a respectable **86 horsepower** and does it at 6500 rpm—enough to propel the 506-pound Hesketh to a claimed top speed of **137 mph** in stock trim. Attempts are also being made to squeeze 150-plus-mph speeds from a slightly massaged version.

While an effort was made to use British components on the Hesketh, Japanese and German instruments found their way on board. Further, **Brembo** brakes and a Marzocchi fork are stock. The shocks are Girling. Nickel plating on the frame might add some **glitter**, but it's what's underneath that counts. On the Hesketh 1000, what counts is **Reynolds 531** tubing, bronze welding and the use of the engine as a stressed member.

So far the Hesketh's credentials look to be in order, and the rest of the running gear doesn't **break stride**. A **hand-formed** 5.5-gallon aluminum tank not only contains fuel, its shaped shroud directs wind to the oil cooler and rear cylinder. Avon **Venom** tires circle the alloy mag-type wheels.

The Hesketh adds up to an **impressive** collection of pieces—one that is scheduled to come together when the bike goes **into production** in a few months. Although no firm price has been attached yet, figures above **$7000** are already flying. But don't start socking away your **pin money** quite yet. The necessity of **EPA** certification reportedly figured into Lord Hesketh's decision to **bypass** the lucrative **American** marketplace—for now.

• Getting there **fast** is all well and good, but if your definition of **performance** happens at a slower speed—and perhaps includes drop-offs, vertical **cliffs** and other seeming impossibilities—consider SWM's new trials bike, the **TLNW 320**. This year the frame has been



Soon-to-be-produced 86-horsepower 137-mph Hesketh 1000 90-degree vee-twin

Breaking with the tradition of the British vertical twin.

SWM's newly rethought, rebuilt 320 TLNW trials bike

Getting longer, taller and shedding a few frame tubes in the transition.

Continued

redesigned to eliminate the full-cradle structure. Instead of tubes running under the **276cc** six-speed engine, a substantial bash plate links the front downtubes to the rear frame members. Additionally, this new model is both **longer** and **taller** than previous versions, while the ground clearance is marginally shorter. Other changes include new shocks without **external reservoirs**, a higher compression ratio and the addition of a small head fairing and a larger-capacity 1.5-gallon fuel tank.

• Up till now if you've had a hankering for a **Snell**-approved **Bell** helmet for your size 8, 8⅛ or 8¼ head, you were just plain out of luck. No longer. Bell has gotten Snell approval for those **larger sizes** of its Magnum and Star-series helmets.

• Remember **Golden State** International Raceway? Sure you do. Until recently it was called **Sears** Point.

• While you're in the mood for remembrances, give a little thought to **Hodaka**. But don't strain yourself; there will be a little memory-**jogger** along soon enough. Daelim Industrial Co., the **South Korean** firm that bought out Hodaka, is reportedly set to get into production soon. The firm is located in Seoul, and is working on a **sub-$1000** model right now.

• But here's something you won't have to wait for. It's Husky's new-model **420cc Automatic**. The shiftless Swede is reportedly in Husky dealerships **now**.

• And, should the need arise, **Metzeler** might have just the rear tire for it. This newest rolling rubber is called the **MX2E**, and it's intended for open-class dirt bikes. Metzeler says the new tire is about an **inch wider** than a 4.50-18 and weighs in at around **15 pounds**.

FEDERAL CASES

• What do you think of **catalytic** converters? Know much about them? Well, if you live in **California** and ride a street bike, you might get the opportunity to get better acquainted. The California Air Resources Board wants street bikes in that state to cut their **hydrocarbon** emissions to 25 percent of current levels by **1982.** Industry spokesmen have said that the only way a large-displacement street bike can meet that requirement is through fuel injection and the use of catalytic **converters**—a move they say would add **$200-$400** to the cost of each bike.

• In addition to the cost, though, converters can also cut down on **mileage.** The point becomes more pressing when you consider the **Corporate Average Fuel Economy** (CAFE) that the manufacturers must meet is expected to continue to climb—to as high as **85 mpg** by **1995,** according to some sources.

• That **CAFE** figure also bears some looking into, since according to a **Department of Energy** report, increased fuel **economy** will carry with it some interesting side effects. As vehicles squeeze greater and greater distances from the same quantities of fuel, **electric** vehicles—once thought to be a universal cure to the energy shortage—will grow more and more financially **impractical.**

• Another recently released federal report—this time from the **NHTSA**—has produced some memorable results. The report concludes that riders triple their risk of **death** by not wearing helmets. NHTSA's conclusions will be used to **petition Congress** to re-examine mandatory helmet legislation.

• On the **state** end of the same question, **helmet** legislation continues to turn up—and to cause controversy. A **bill** in the **New York** Assembly, AB 2613, would repeal that state's helmet requirement for riders over 18 years old.

• In another state helmet item, a storm has erupted in **Colorado** over an attempt to get a **helmet law** there put back on the books. Since Colorado's helmet law was repealed in 1977, two efforts to get it reinstated have failed. The present storm centers on a **$6500** grant in **federal funds** made by the Colorado Highway Commission to the Colorado Safety Association and to the Colorado Medical Society, both of which requested funding to promote a mandatory helmet **referendum** on the Colorado ballot.

• Back again to California and some other monetary maneuvering. A two-thirds positive vote on **AB 2914** would **transfer** the state's **Off-Road Vehicle Fund** to California's general budget in January 1981. The fund is supported largely by the registration, renewal and transfer **fees** paid for off-road vehicles. The Assembly's Ways and Means Committee re-

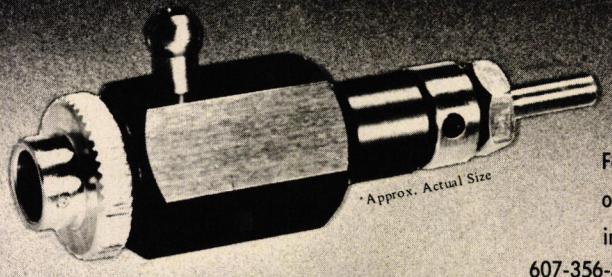
Flowpower has "the ANSWER" to your tuning problems

. . . . the RPO F3 Fuel Module

The Problems . . . .

- ☐ lack of high end power
- ☐ fixed metering carbs
- ☐ poor performance with new headers
- ☐ time consuming jet changes
- ☐ non-available jets
- ☐ pipes turning blue
- ☐ flat spots

Easily installed on any carburetor, the RPO F3 Fuel Module will solve all of these problems and more. By sensing your engine's fuel needs, the F3 greatly improves performance - typical ¼ mile gains of .3 sec. & 3 MPH. Tuning becomes a snap - completely re-jet multiple carbs in seconds. The F3 works with stock exhaust systems (baffels in or out), but is super with a high-pro header - solves jetting problems, yields full power, and even lessens pipe bluing! Most importantly the carburetors become totally self compensating. You get top performance under all temperature, altitude, and weather conditions — and never need to re-jet!!! Buy one F3 per carb and spend this Summer in perfect tune.



*Approx. Actual Size

F3 Modules . . . . $35 each.

For fast service when ordering call our Toll Free Number. For additional information call our Tech Line 607-356-3305 or write Flowpower Systems, Box 38G, Whitesville, NY 14897 for individual application. Please include make, model and year of motorcycle. Dealer inquiries invited.

FLOW POWER

to Order Call Toll Free . . .

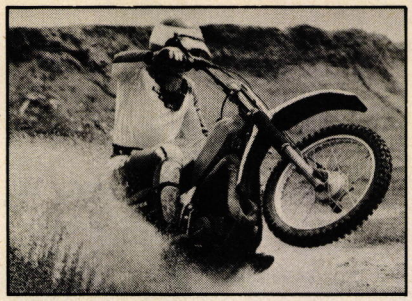
800-828-0440 (except N.Y.) 9-5 PM EDT Mon.-Sat.

in New York Call 607-356-3304

* Flowpower is your complete DENCO - R.P.O. distributor *

RIDE/REPORT
Cagiva MXR 250

MX weapon for the motomafia.



• If the Cagiva MXR 250 looks a little familiar, it should, for under a veneer of garish Italian red paint is the residue of Harley-Davidson's venture into two-stroke motorcycling.

In the wake of Harley's withdrawal, Cagiva has taken over the Varese factory and concentrated on building competitive off-road machines. The firm's first effort was the MXR 250, which uses the old Harley trail motor wrapped in very Italian clothing.

Even the motor now feels Italian, with a typically Latin powerband screaming out reasonable power at very high revs. There is little bottom end, and a gentle transition into the real powerband makes the motor feel almost slow. It is not the fastest 250 around, and some excellent gas consumption figures suggest that it has not yet reached its maximum state of tune.

The same, unfortunately, could also be said about the rear suspension, which is grossly oversprung. Three separate springs give too high a spring rate as well as too much preload. The resulting rough ride puts a lot of work in the direction of the Marzocchi fork. With the back end kicking up on every jump, the fork works hard but proves up to the job, although the action ends up feeling a little harsh.

With such mismatched suspension it is amazing how well the bike steers. The designers have crafted the chromoly tubing into a strong and agile frame that appears to do anything well. Hitting a berm, sliding or squaring the inside line all seem to come easily to the MXR, prompting the question of what it could do with the proper tuned suspension parts. Even straight from the crate it is very good.

Also good are the Italian Grimeca brakes, which are OEM on so many European machines these days. The full-floating rear hub could slow a runaway Jumbo jet, making the 220-pound Cagiva a simple matter to stop from any speed.

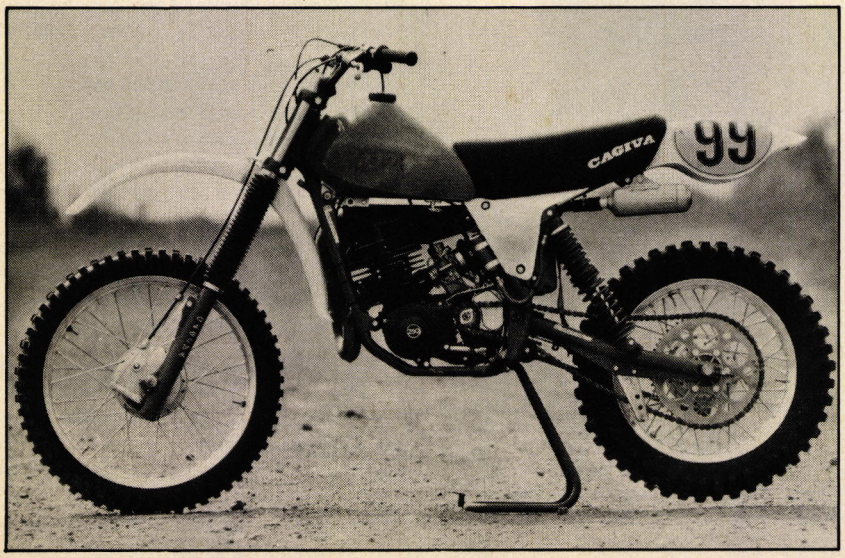
Stopping it does well, but like all Italobikes the Cagiva looks good also. "The Line" is important to Italians, and Cagiva uses nice Stilmotor plastic to give the machine its flowing curves. From a distance the Cagiva looks sleek, fast and red, which is no less than you would expect from such an Italian machine.

A Harley it might have been, but it has its roots in Italy. And now that it is back in Latin hands the Cagiva looks like a 250cc-class contender. With a simple change of rear springs I could almost become a Latin lover.

—David Dewhurst

Importer: Slater Bros.
Collington, Nr. Bromyard
Herefordshire, England

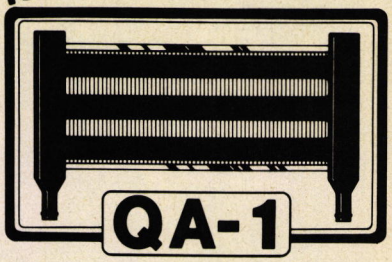
Category	motocross
Engine type	two-stroke vertical single
Bore and stroke	72mm x 61mm
Displacement	248.4cc
Carburetion	one 36mm Dell'Orto slide/needle
Gearbox	5-speed
Front fork/wheel travel	Marzocchi 35mm stanchion tube/9.8 in. (250mm)
Rear shocks/wheel travel	Corte Cosso remote-reservoir/12.2 in. (310mm)
Wheelbase	57 in. (1450cm)
Seat height	37.4 in. (950mm)
Weight	220 lbs. (100kg)



Continued

DERALE
OIL COOLERS

NEW World's Finest Oil Cooler
With Built-in Thermal Control Valve



The World's Finest Oil Cooler built in Thermal Control Valve prevents over cooling automatically.

MOTORCYCLE	Sug. Ret.
HONDA	
CB400T	$79.95
500,550,750K	$79.95
750F 1977, 1978	$79.95
CB750F,750K,CB650 1979	$79.95
GL100	$79.95
ATC90-110 (NEW)	$79.95
KAWASAKI	
KZ650	$79.95
Z1R,KZ900,KZ1000	$79.95
SUZUKI	
GS550,750,850,1000	$79.95
YAMAHA	
TT500	$79.95
XS650	$79.95
SR500	$79.95
XS750	$79.95
XS1100	$79.95
BMW	
R75/6,R90/6,R90/S	$79.95
R75/7,R100/7,R100S, R80/7	$79.95
MOTO GUZZI	
850-T3	$79.95
HARLEY, BSA NORTON, TRIUMPH	$74.95

Available from your local dealer your bike's best friend.

DERALE OIL COOLERS
138 W. Gardena Blvd.
Gardena, CA. 90248
213/515-7266, 532-5997
Send for Free Literature and Decal
(DEALER INQUIRIES INVITED)

MOTORCYCLE MAKE _____ CC _____
NAME _____
ADDRESS _____
CITY _____
STATE _____
ZIP _____

thanks Barnett!

Kiss those cable problems good-bye and concentrate on the big win by using **ONLY BARNETT** control cables.

BARNETT insures long lasting performance by using only the best american made components in the construction of their cables. The tough casing is made from hard drawn spring wire to protect the cable from kinking or pre-mature wear. But, as we all know, a cable is only as good as its ends and **BARNETT** swags its cable ends to deliver more uniform tolerances for longer cable life.

For any control cable needs you might have, from standard to extra short or extra long, use the **BEST** cables available **BARNETT.**

Send $3 today for a complete catalog of cable and clutch performance

Barnett
TOOL AND ENGINEERING
America's Best for 31 Years
P.O. Box 2826 • Santa Fe Springs, CA 90670
(213) 941-1284

STICKERS!

YOUR CHOICE **50¢**

MOTO-X FOX · FMF SO CALIF · FOX · Racing USA · SCOTT · PJ1 LUBRICANTS · BEL-RAY TOTAL PERFORMANCE LUBRICANTS · MXL · CHAMPION · JOFA · BELL HELMETS · OURY GRIP · HALLMAN H PRODUCTS · DG

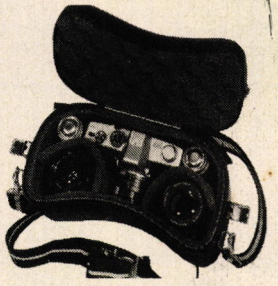
WARNING
IF YOU VALUE YOUR OWN LIFE AS MUCH AS I VALUE MY BIKE
DON'T MESS WITH IT

Send 50¢ for each sticker above or $6 for all 15. Get our new '80 catalog of over 1200 stickers plus 5 free samples (our choice) for only $3. Send your money and list of what you want to:

STICK-EM UP
1858 Catalina Court, Dept. D
Livermore, CA 94550

TAKE ALL THIS

IN THIS.



And do it safely. The Kustomold Case is designed to fit your body like skin and protect your camera like an armored guard. Perfect for bikers.

- **WAIST/SHOULDER STRAP**
- **HARDSHELL CASE**

$26.95

Send check or money order.
Calif. residents, add 6% sales tax.
KUSTOMOLD • 14924 DOWNEY AVE.
DEPT. CG PARAMOUNT, CA 90723
Dealer Inquiries Invited

portedly is considering the bill now.

• Another California item concerns Assemblyman Robert Hayes, author of the **Sagebrush Rebellion** bill in that state. The bill would wrest control of the in-state lands now overseen by the federal **Bureau** of **Land Management** from the federal government and return it to the state. California Governor **Jerry Brown** vetoed the bill, but Hayes hasn't stopped. He's introduced a **new bill** to replace the vetoed would-be legislation.

• Some other legislation in Alabama should be of interest. The law, **SB 109,** may have some bearing on **motorcycle product liability** cases in that state. Under the new law, product liability cases must be brought within one year of an **injury** and not later than 10 years after a product is introduced.

• Ready or not, Hoosiers, things are going to get **organized** soon, courtesy of a **new** program by the **Indiana** Bureau of Motor Vehicles Motorcycle Safety Advisory Committee. Indiana bikers are expected to benefit from the program with a full course of **licensing procedures,** complete with written and skill tests, by **October 1981.**

HARD CASH

• When the current **federal** program to **tighten credit** was announced, the motorcycle apparently got left standing at the door. Again. Even though the **Federal Reserve Board** instructed the financial community to treat secured credit (such as **buying** a motorcycle **on time**) in the normal manner, it suddenly got very **hard** to get a loan for buying a bike. This being a time when not only **money** but gasoline is **tight,** that seemed a bit odd. So, the AMA has petitioned the board to make clear the status of motorcycles in President Carter's program of credit restraints.

• In yet another money-related AMA item, **AMPAC,** the political action committee of the AMA, is planning on making itself heard, to the tune of **$15,000** yearly in **contributions** to federal **election** campaigns. But the money has to come from somewhere. If you're interested in making a **contribution** or if you want to find out more about AMPAC's goals, write to AMPAC, P.O. Box 141, Westerville, Ohio 43081.

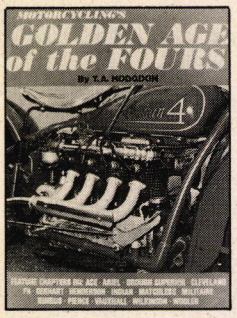
• At the other end of the dollar, if you can get a **Maico** into the **top 10** overall at an AMA **National Championship** MX or Supercross, you'll be at least **$50** richer. The $50 is in addition to Maico's other posted contingency awards.

• And back to the big money for a moment. Sources are reporting that **Honda's** temporarily shelved **NR500** project **cost** the company nearly **$12 million.**

AFTER THE FACT

• A Product Evaluation on **Thurlow** gloves in the April issue handed out some information that can be improved upon. The evaluation noted Thurlow's one-year warranty on the gloves and indicated that damaged **gloves** can be sent to the **mail** order outlet, Bavarian Cycle Works, for **repair.** But if you send them

Book Review



Golden Age Of The Fours
By T. A. Hodgdon
164 Pages, $8.95
Classic Motorbooks
P.O. Box 1
Osceola, Wisconsin 54020

• Nostalgia fans should love this book for its ancient photos and reproductions of original advertisements alone. The text can draw a willing reader back to a simpler time when four cylinders made bikes long instead of wide and just riding around the block was cause for celebration.

Indeed, the author is at his best when romanticizing about iron men on iron machines. Men like Wells Bennett, riding a four-cylinder Henderson from Los Angeles to New York in a record-breaking time of 6 days 15 hours and 13 minutes. "In final tribute," concludes the author, "we can only say that Wells Bennett was an iron man on a very splendid and faithful steed!"

Numerous technical drawings explaining the inner workings of the early engines help the reader understand design features such as "suction-operated intake valves" and separate oil wells for each crank journal. Occasionally the book wallows in redundancy in explaining areas of technical invention, but the reading isn't too technical in nature and the slow parts are liberally splashed with anecdotes.

The author's lighthearted writing style and obvious affection for motorcyles is apparent throughout, and is especially noticeable as he explains the standard pedal-starting techniques of 1912 versus the new Henderson's fold-out crank summarized by, "In short it was even easier to start than a light car."

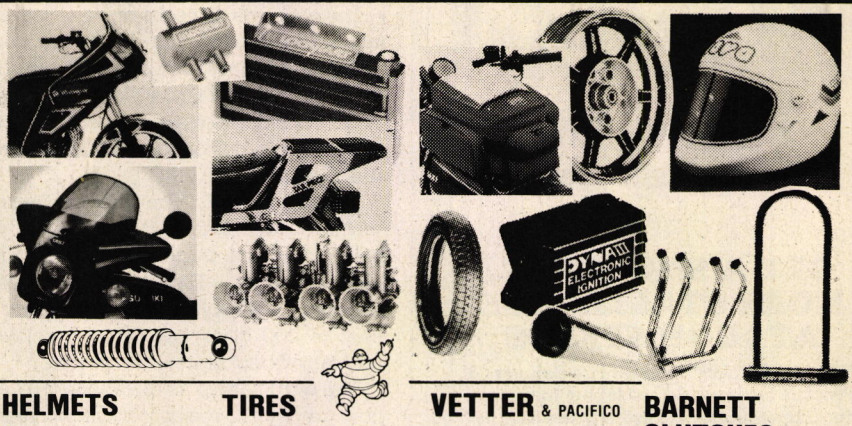
Chapters on airplanes powered by four-cylinder motorcycle engines, on finding antique bikes and restoration of a 1912 Henderson add color to the book without drifting too far from the point. Also included is a fascinating photo of a 1961 Harley-Davidson four-cylinder prototype with a transverse-mounted engine and double overhead cams protruding from the heads.

You're probably thinking how irrelevant those early bikes are in an age of CBXs and GS11s, but you may change your tune after reading this book and finding out how much fun you missed. —*Terry Whytal*

Continued

Racecrafters
INTERNATIONAL INC.

LOW PRICES • QUALITY BRAND NAMES • FAST SERVICE



HELMETS

BELL
Star II **$89.99.** Mag III **$79.99** • Moto III **$94.99.** R-T **$49.99** • TourStar **$89.88.** Comparing prices? **Call.** We'll try to meet or beat any legit advt price! • **SHOEI** S-20 **$56.88.** S-12 **$77.99** Z-G **$107.88** • **NAVA** Integral II **$79.99** • **ELECTRO** E-1 **$67.99** E-2 **$88.99.** E-3 **$96.99.** (Metallic, Flag, 2-color, Snell models xtra) • **EXTRA SHIELDS** Clear or Smoke Bell, Shoei 3 for **$7.99.** Nava, $7.95 ea. Electro 2 for **$8.99** • **SCOTT** GOGGLES **$11.88**

IGNITIONS

DYNA III **$89.99.** PRESTOLITE **$72.88** PER-LUX **$89.99.**

LOCKHART

Oil Cooler Kit: Hon, Yam, Kaw, Suz • Oil Cooker Kit: Hon, Yam, Kaw, Suz, Tri, H-D..... **$72.88** • Xtra Capacity Model **$87.88** • Thermostat Valve **$29.88** • (Add $17.50 for Chrome Cooler)

AIR FORK CAPS

Nearly all bikes—
street & dirt.....**$15.95** pr
Equal-Fill Kit.....**10.95**
Equal-Fill Kit
w/aircraft lines.....**19.88**

TRAVELTANKS

Aux. Gas Tanks GL 1000. Alum. 3 Gal. **$209** pair.

RACK FACTORY

& Amco Racks, Bags. Call for Low Prices!

Balance-Plus Tire Sealant 2 for **$5.49**

Breezer Tire Tool **$8.88**

TIRES

MICHELIN M45
4.25V18.....$56.88
4.00H18.....49.88
3.50H18.....44.88
3.50H19.....44.88
Mich Tubes.....5.79
PZ Also Avail.

CONTINENTAL K 112
5.10-16.....**$52.88**
4.50-17.....**51.88**
5.10-18.....**51.88**
4.25-18.....**49.88**
4.00-18.....**48.88**
3.50-18.....**46.88**
3.25-18 Rib Front.....**36.88**
3.50-19 Rib Front.....**43.88**
Add $5 for Tubeless

DUNLOP K81 & K81 MKII
*5.10-18.....**$46.88**
4.25-18.....**43.88**
4.10-18.....**41.88**
3.60-18.....**39.88**
3.50-19.....**38.88**
4.10-19.....**42.88**
*4.10-19 MKII.....**44.88**
*5.10-16.....**48.88**
*Raised White Letters
Avail.....Add. **$6.00**

K 91 MKII
5.10-17.....**$59.88**
4.25-18.....**49.88**
5.10-18.....**55.88**
4.10-19.....**46.88**

GOODYEAR GT II
5.10-17.....**$56.88**
4.00-18.....**49.88**
4.50-18.....**56.88**
3.50-19.....**45.88**

ALSO: Goodyear HST & AT. Call for Low Prices!

MULHOLLAND & S&W

Mull. Incl Spgs.....**$67.88**
S&W Air Shocks....**$126.88**
S&W Freon.....**$107.88**
Entire S&W & Mulholland Lines. Call Today!

Yamaha RD Chambers**$179.00**

VETTER & PACIFICO

Windjammer IV.....**$279.00**
plus hdwe/shield
Lowers.....**$74.95**
Cycle Sound.....**$76.99**
Saddlebags.....**$239.00**
+ Hdwe.
TrailTrunk.....**$179.00**
QUICKSILVER..**$144** + Hdwe
Hippo Hands.....**$39.88**
Pacifico Shadow.....**$359**
+ Hdwe.
Silhouette Fairing...**$109.00**
Color Match & All Options Avail. We're the Vetter Kings!

LESTER WHEELS

Harley—Save to 50%. Call for Avail. & Prices Hon, Kaw, Suz.

Call for FREE 12-Page Flyer!

KERKER PIPES

4/1 Hon, Kaw, Yam, Suz
Chrome.....**$179.00**
Black.....**169.00**
Oil Cooler Kit.....**89.00**

COBRA ALARMS

Alarm.....**$49.88**
Pager.....**129.00**

MIKUNI CARBS

29m Smooth Bore—Hon, Kawa, Suz.....**$289.00**
Accel. Pump.....**44.99**

FAIRINGS

Tracy 2001.....**$169.00**
Shoei FM-2.....**129.00**
(Colors extra)
Silhouette.....**89.00**

HELMATE SPEAKER

Listen to AM/FM or CB while-u-ride! **$9.88.** Bi-Com-talk to your passenger. **$8.88.**

BARNETT CLUTCHES

Stop slipping! World's best clutch plates for street, dirt, track.

HONDA
Singles, Fours.....**$27.99**
Twin Cyl.....**29.99**
GL 1000.....**32.99**

YAMAHA
2-Stroke Twins.....**$26.99**
4-Stroke Twins, XS 750..**31.99**
XS 1100.....**32.99**

SUZUKI
Single Cyl. 250-400cc..**27.99**
GS 400, 550, 750.....**31.99**

KAWASAKI
3 Cyl. 500, 750.....**27.99**
KZ 650.....**28.99**
900-1000.....**32.99**

NEW: Extra-Plate Racing Kits—Hon., Kaw., Suz., Yam. Call for prices. Clutch Springs: Most bikes **$6.88** set!

QUARTZ LITES

Most bikes 500cc
& Larger.....**$19.88**
Yamaha RD 350/400...**27.88**

CLYMER BOOKS

The right repair manual for your bike!.....**$6.99.**

KRYPTONITE

KRYPTONITE LOCK. Defies hacksaws, bolt cutters. World's finest motorcycle lock. **$37.50** Also: MAXIM 7ft Cable Lock **$39.88**

ECLIPSE BAG

King of the tank bags. Also converts to backpack. Black, Blue, Red. **$49.49.** Free Ship-

FREE SHIPPING ON $25.00 ORDER WITHIN 48 STATES

CALL TOLL-FREE 48 STATES

FREE CATALOG WITH ORDER/ OR SEND $2.00

ORDER by MAIL or PHONE TOLL-FREE:
VISIT OUR 2 BIG STORES

CALIFORNIA **800-382-3600**
OTHER STATES **800-423-5120**

RACECRAFTERS
7801 CANOGA AVE.
CANOGA PK, CA 91304

7437 VAN NUYS BLVD.
VAN NUYS, CA. 91401
(213) 999-2811

master charge | AMERICARD

RACECRAFTERS • 7801 CANOGA AVE., CANOGA PARK, CALIF. 91304

Please Ship: _____

_____

Name _____ Phone (_____) _____

Address _____

City/State/Zip _____

☐ Visa ☐ M-Chg. # _____ Exp._____

☐ M.O. $ _____ ☐ Catalog $2 (or FREE with order).

50% Deposit Required on COD. Prices good for 30 days. California residents add 6% sales tax.

Stop Wheel Hop

GET A SMOOTHER, MORE STABLE RIDE AT HIGH SPEEDS

BALANCE PLUS® Internal Tire Balancer & Puncture Sealer works inside your motorcycle tire (tube or tubeless) to hydrodynamically balance the entire rotating wheel unit as you ride.

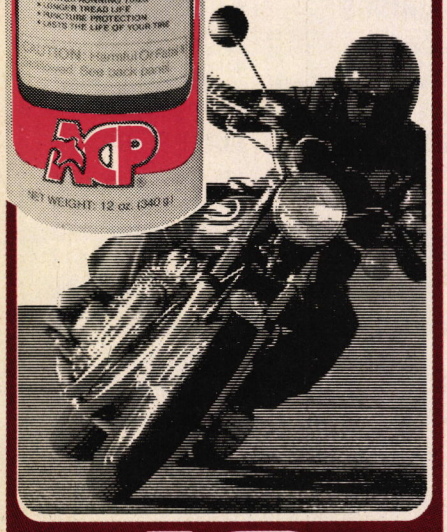
Centrifugal force pushes the fluid formula to the furthest points from the center of rotation. The result is a smoother, more stable ride, cooler running temperatures and longer tire life.

BALANCE PLUS® works continuously, compensating for tire wear and road conditions, providing balance for the life of your tire.

Plus puncture protection! BALANCE PLUS® automatically seals most punctures as you ride.

SEND 50¢ FOR PRODUCT EVALUATION LITERATURE AND DECAL

ADVANCED CYCLE PRODUCTS
3633 W. MacArthur Blvd.
Suite 410, Dept. B13
Santa Ana, CA 92704
(714) 549-8707



ACP®

Meeting A Deadline

The Express leaves—and arrives—every half hour.

• The next time someone starts telling you just how impractical motorcycles are, don't read him the Riot Act. Just direct your confronter to Chicago's northside Gold Coast. Almost any business executive around will straighten him out for you. Why? The Deadline Express.

On April 1, 1977, "Flash" (AKA Daniel) Wolfe founded the Deadline Express, the only motorcycle trucking company in Illinois. Not since the Thirties when the Harley-Davidson Delivery Company operated a fleet of 200 bikes has Chicago enjoyed such an efficient messenger service.

The word spread as quickly as chicken-pox in a day care center. In just two years, more than 100 of the Gold Coast's recording studios, music and film producers, radio stations and broadcast-oriented advertising agencies grew to depend on Deadline's 30-minute service. That's right: a half-hour to pick-up *and* deliver anywhere in Chicago.

And the service is year-round, even in the monster winters of the Windy City. In fact, in the case of the Deadline Express, winter actually helped to establish the company's reputation. During the city's record blizzards last year when traffic ground to a halt, the Deadline Express moved. Its bikes didn't get stuck and could park almost anywhere.

Of course, running a motorcycle delivery service during a Chicago winter did require a little forethought. The health and physical condition of a rider are of prime importance when nature is working to make things impossible. Wolfe advised his riding employes to eat hot meals, take vitamins and head for a sauna at the first sign of a cold. When the frost really began to bite, he recommended wool gloves and socks with silk liners over a coating of Vaseline to protect the extremities. Even with precautions such as these, it takes a fair amount of dedication to ride out a Chicago winter—the kind of dedication Wolfe looks for when he's hiring riders.

Spring is when the new riders flock to join up, and they must be city-wise. Experienced riders, especially those already attuned to city traffic, have developed the skills necessary to dodge the four-wheeled commuter. And it is probably this shared sense of peril that builds a camaraderie between the Deadline Express riders.

Each courier owns his/her own bike and is charged with keeping it in good condition. At first, most Deadline messengers rode large-displacement touring bikes, but the recent trend has been toward smaller, lighter street bikes. Since a prime consideration is maneuverability through crowded city streets, most packages are secured to racks, carried in packs or simply bungied to seats rather than stuffed into saddlebags. Fairings blossom as the weather turns nasty, and when the mercury dips far enough, two cars are added to the fleet for longer trips. Motorcycles dominate the fleet, but anything that works will be used. A Vespa rider, for instance, has been with Deadline since the beginning. A sky diver and a marathon runner also are on call. Getting there fast is what it's all about.

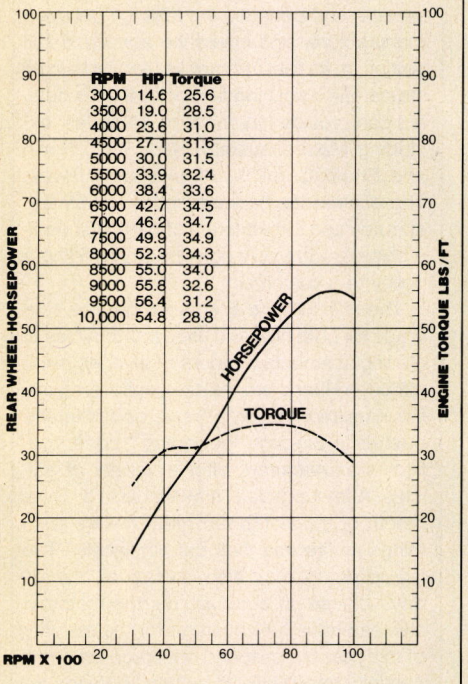
And that dedication to speed has paid off; an estimated 100,000 deliveries were made by Deadline in 1979. The business has also expanded to include air freight, using motorcycles to wind through congested airport traffic and promising a delivery time of six hours anywhere in North America. As a part of Worldwide Special Couriers, Ltd., this short delivery is accomplished by using motorcycle-mounted agents in other cities who pick up and deliver packages when they arrive. And plans include branch offices in other cities. So the next time you're in an elevator with a helmeted person, don't be the hundredth to ask, "Do you ride?" Be the first to ask, "Do you deliver?"

—Merry MacTavish

to BCW, they simply get forwarded to Thurlow. You can short-circuit the process and probably get **faster service** by sending the gloves directly to Thurlow Leatherworld, 4807 Mercury Street, San Diego, California 92111.

• In that same issue, another product evaluation noted that Kraeuter's **Thumbwheel** ratchet set comes in fractional calibration only. And it's true but a 1/4-inch-drive **metric** ratchet set that differs from the Kraeuter largely in packaging is available from **S-K Tools**—like Kraeuter, a division of Dresser Industries—for $14.98.

• By now you've probably got the idea that this column takes **stories** one step **further** to get things straight. You're right. For example, don't lose any sleep pondering the improbable after reading the **KZ750** Road Test that ran in the May issue. The bike really can't produce a 12.5-second run through the quarter-mile with a peak **horsepower** of only 27.5. A printing error resulted in the same horsepower **figures** for the CR250R appearing on the 750's chart. The 750's numbers should look like this:

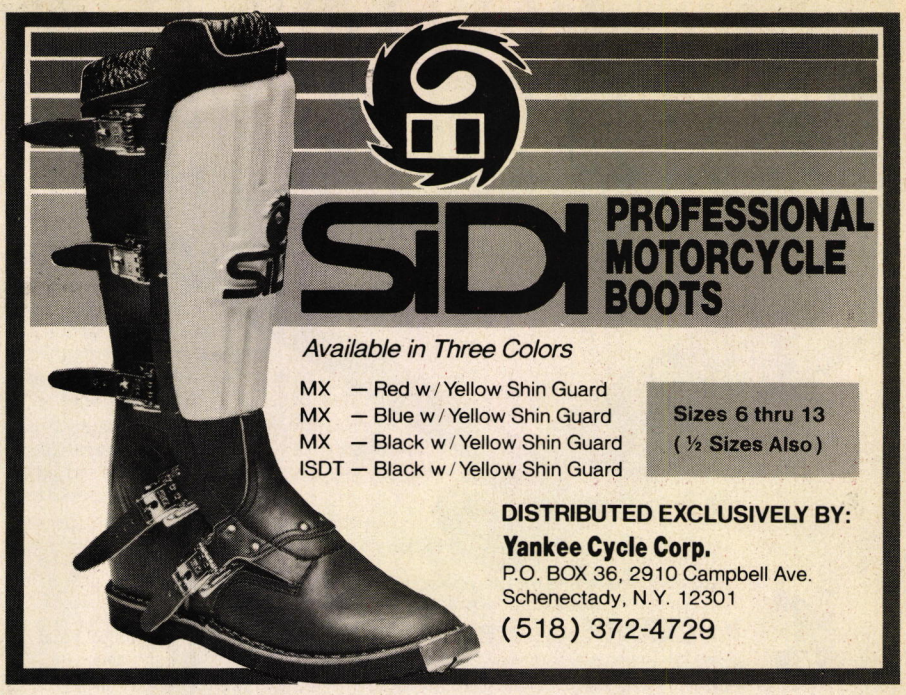


• Also in the line of straightening out some numbers, the **specifications** chart that accompanied the Track Test on the **400/450 M1 Maicos** in April doesn't jibe with what is on the bikes. The M1s run **40mm Bing** slide/needle carbs, **triple-row** primary chains and a final drive ratio of 14/56: 4.0:1.

• In terms of straightening out some non-numerical problems, the Track Test on the **Yamaha YZ250G** in the March issue made mention of a glitch in the bike's **air filter.** Aside from being difficult to install, the shape of the YZ's airbox distorts as its two retaining wingnuts are tightened, allowing **unfiltered air** to pass between the airbox and the filter element. Further, when the wingnuts are really cinched down, the airbox housing can crack.

Following up on the situation showed that Yamaha is on the case and has designed a **fix.**

Continued



WHEN WES COOLEY SHOWS 'EM HIS EXHAUST — IT'S **ALWAYS** A YOSHIMURA EXHAUST SYSTEM!

YOSHIMURA exhaust systems offer a significant performance increase to standard machines. Our systems were perfected after thousands of hours of dyno and track time. Clean styling that closely follows the underside of the machine for maximum ground clearance and greatly reduced weight (20-25 lbs). Our concern regarding "noise pollution" has led to the development of our heavy duty all metal baffle (removeable for racing) w/o fiberglass wrapping to produce a low, but still healthy tone.

YOSHIMURA
RESEARCH & DEVELOPMENT OF AMERICA, INC.
5517 Cleon Avenue
North Hollywood, Calif. 91601
(213) 985-2331. Telex-662.481

ORDERS SENT C.O.D.

SUZUKI: GS550 (blk)	$155.00
GS 550 (chrome)	175.00
GS 750 (black)	160.00
GS 750 (chrome)	180.00
GS 1000 (black)	165.00
GS 1000 (chrome)	185.00
KAWASAKI:KZ 650 (blk)	155.00
KZ 650 (chrome)	175.00
KZ 1000 (black)	159.95
KZ 1000 (chrome)	179.95
HONDA: CB 750 (blk)	155.00
CB 750 (chrome)	175.00

"Specify F or K model CB750"

RETAIL PRICES SHOWN

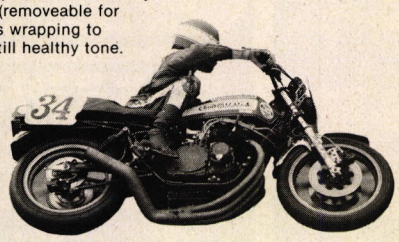
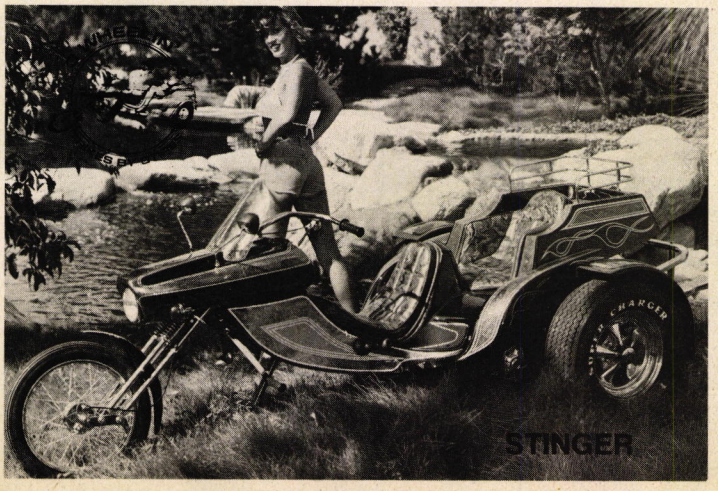


Photo by Bill Haulenbeck

WES COOLEY, JR.
1979 AMA SUPERBIKE CHAMPION

send $3 for catalog

C. Carpenter

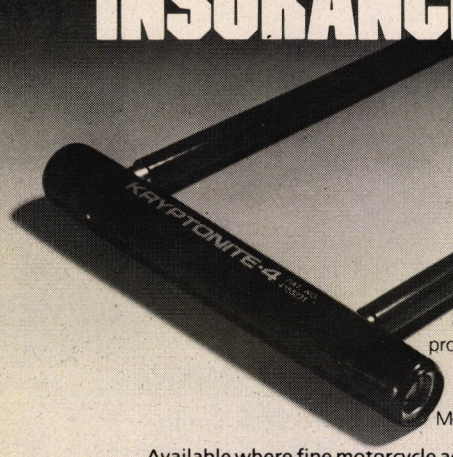


SEND $3.00 FOR CATALOG
Custom Trikes By Stires
13901 Nautilus Dr., Dept. G Garden Grove, CA 92643
(714) 530-1730

Name _____
Address _____
City _____ State _____ Zip _____

In Canada: Caldine Holdings, LTD.
Box 7, Three Hills, Alberta

THE KRYPTONITE "INSURANCE POLICY"*



The Kryptonite Motorcycle Lock is designed specifically to prevent motorcycle theft. "We couldn't file, hacksaw or break it with bolt cutters . . . ", says Cycle Magazine.**

Made with high strength alloys, it's lightweight, convenient to carry, and is covered with a rich, thick protective vinyl coating. It's easy to operate and can be installed in seconds.

Protect your motorcycle with a Kryptonite Motorcycle Lock. . . your best insurance against theft.

Available where fine motorcycle accessories are sold, or send $41.95 (plus $2 for postage and handling) to:

KBL CORP. 95 Freeport Street, Boston, MA 02122

*The words "insurance policy" are meant to imply theft prevention only. No actual insurance accompanies this product.

**Complete product evaluations are available upon request.

BELL HELMETS **SHOEI**

ZG	S-27	S-12	RT
$109.95	$56.95	$82.95	$39.50
MOTO III	MAG II	STAR 120	STAR II
$78.50	$61.50	$66.50	$76.50

MOMO New! Only $74.95

Vetter

WINDJAMMER IV Only $329.

Incl. pop vents, striping, lights, lighter. Options: Horns $21.95. Quartz light $21.95. Color match $69.95. LOWERS (striping incl.) $69.95 w/color match $79.95. CYCLE SOUND: $69.95

QUICKSILVER Only $199

SADDLEBAGS

Easy to install, only $289.95. Color match add $19.95

TAIL TRUNK

Your best price, only $159.95. Color match add $19.95. State make, model, year, options and color

MARTEK Products, Inc.

High performance electronic ignitions for most **4-stroke** 2- and **4-cylinder** street & touring bikes. State year and model. **$84.95**

Supersensitive alarm system protects all bikes **$49.95**

Remote pager system add **$119.95**

COBRA

KERKER

4-INTO-1 EXHAUST SYSTEMS from **$160** black, **$170** chrome

Jardine R.C. ENGINEERING

TOTAL PRICES WE PAY SHIPPING

VISA California residents add 6% tax. State Style, Size and Color. Send check or m/o.

PARTS UNLIMITED Dept. CG 13273 Glenoaks, Sylmar, CA 91342. Credit Card orders phone **213/781-3828**

#1 SILENT MOTORCYCLE ALARM

MILO SYSTEMS is the *first* with technology and *first* to produce a remote alarm system which combines the sensor/computer and paging transmitter in a *single* unit. The *complete* system includes the transmitter with sensor/microcomputer (1 unit) to mount on your bike, the antenna, adapter cable and a pocket beeper.

Suggested list price is $147.95. Call us for distributor nearest you.

MILO SYSTEMS

699D S. State College Blvd. Fullerton, CA 92631 714/738-1387

Policy Makers

Finding the dotted line.

• Yes, Johnny, there really is a silver lining. There *are* insurance companies willing to insure your new commuterbike. As a matter of fact, some specialty companies are actively soliciting your business. And a pair of them recently began association with two major motorcycle manufacturers.

Just a year ago, American Honda began offering its customers insurance with the First American Insurance Agency of Kansas City, Missouri. Yamaha Motor Corporation, USA, recently joined forces with K&K Insurance Agency, Inc., of Fort Wayne, Indiana. These insurers represent solutions for manufacturers' and motorcyclists' dilemma of hard-to-get insurance.

Ideally, anyone who buys a Honda or a Yamaha should be able to obtain coverage at the dealership at the time of purchase. But not all dealers choose to provide the service, and because the alliance between manufacturer and insurance agency is still getting on its feet, it is not yet available in all states. Even so, Honda reports that its dealers can provide insurance in 44 states, excluding Massachusetts, New York, North and South Carolina, Alaska and Hawaii. The differences between individual states' statutes and the attitudes of particular dealerships are the only holdups to providing a policy to a customer.

These insurance agents will provide coverage for both new and used motorcycles of all displacements to riders of all ages. And, although Honda emphasizes policies covering nine months or a year, and Yamaha pushes a 30-day "get-going" coverage, both manufacturers offer a variety of policies. A lay-up policy is available in a three-month or six-month term that covers such things as fire and theft but not liability. The lay-up policy may also contain a "sunny-day" clause. In other words, the motorcyclist can have full coverage for the majority of the year but suspend coverage for a few (usually three) months when he keeps his bike in storage. Then, when winter suddenly sprouts a balmy spring day, normal full coverage will resume and the insured can get out for a ride. This policy assumes, of course, that the rider is not riding every day or most of the days when the bike is supposedly in storage. The partnership between manufacturer and insurance agency offers an alternative to the prevalent anti-bike attitude of the major insurers.

Better yet, this type of business arrangement is expected to spread, eventually offering the lowest possible rates. And this, according to American Honda, is only the first step. If insurance is already available through dealers, financing, they reason, must be at least on second base.

—Merry MacTavish

It's basically a metal **reinforcing ring** that circles the filter element's frame. The fix was incorporated into later models, but if you've got one of the **early** YZ250Gs without the ring, pick one up from a Yamaha dealer.

RUMORS

• Last month's rumor about a **Porsche Design Harley**-Davidson set off flurries of inside talk. The latest gossip is that the bike will be water-cooled, might be of an even **larger displacement** than was originally reported and could **show up** even **sooner** than was anticipated. In fact, the Harley frenzy has gotten so far out of hand that wild-eyed sources are claiming Harley's shutdown of its **York** assembly plant during July and **August** will allow time for the installation of new tooling to produce the as-yet-only-rumored **vee-four.**

• All of which may or may not be **true.** Of course, if there is new tooling getting **bolted in** right **now,** it's possible that it is for a new **500cc Harley** flattracker being prepared in anticipation of an expected AMA ruling that will impose a 500cc displacement restriction for **dirttrack** racing.

• And back to the subject of **vee-fours** for a moment, serious insiders have strengthened the stories that **Ducati** has a vee-four lurking up its corporate sleeve. As the tale stands now, the bike is said to be ready for production by **1985,** and that it will run **four valves** per cylinder, water cooling—but no **desmodromic** valving.

• Of course, no current rumors about **big vees** would be complete without mention that **Laverda** is said to be planning production of its vee-**six** by as **early** as 1985.

• But back to Ducati. Further talk has it that the entire **Ducati** 1980 **production** was sold out months ago. A reported 2000 orders will have to wait to be filled until the 1981 models are ready. And by then, the story goes, Ducati's engineers will have readied a **turbocharged 500cc Pantah.**

• Changing over to the gossip about the Japanese manufacturers, the almost instant acceptance of the new **four-cylinder** KZ550 and KZ750 has generated considerable talk that **Kawasaki** will apply the same technology to **slim down** its **1000cc** bikes.

• And of course, gossips being what they have always been, the viewing of **Yamaha's** prototype **water-cooled 125cc** motocrosser on Dutch tracks has prompted plenty of semi-idle chatter about forthcoming production **YZ waterpumpers.**

• In another tale about **Yamaha,** sources say that they would be pleased—but not especially shocked—to see an **SR500 monoshocker** by next year.

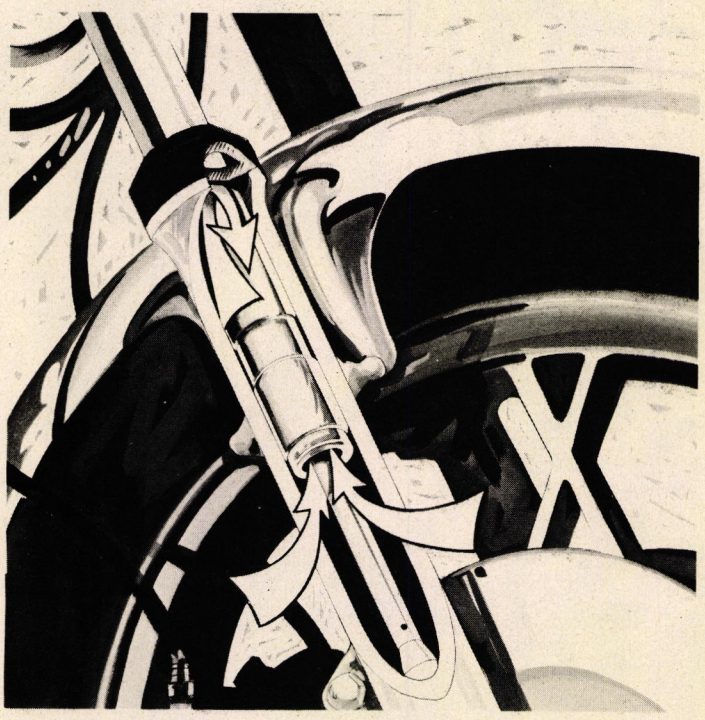
• And as word of single-shock marketing **successes** continues to spread, sources say that the smart question is not whether Suzuki will follow suit but what configuration of **single shock** the new **RMs** will use.

• Still on the subject of shocking singularity, a popular tale circulating these days is that Graham Noyce's **450cc Pro-Link** MXer is a

Continued

SMOOTH STROKE:T.M.

Fork Oil Technology Just Took a Giant Step Forward



KAL-GARD announces the most dramatic breakthrough in fork oil technology ever-SMOOTH STROKE. Its sophisticated formula of molybdenum disulphide (moly), anti-foam additives, and super-premium oils combine to provide an incredibly smooth ride and a drastic reduction in friction and wear. SMOOTH STROKE'S rich black color comes from its high moly content. The moly ingredient greatly reduces the internal friction and heat within your forks, enabling them to more closely respond to irregularities in the road instead of trying to overcome the internal "stiction" (sticky-friction) of seals, sliders and other components. The result is a super smooth ride. Moly also provides an added plus for competition uses (motocross, road racing, etc.) by virtually eliminating wear in critical load areas. Treat your forks (and your body) to a bottle of SMOOTH STROKE today and you'll never be satisfied with anything else.

The KAL-GARD STARTER KIT includes a 5 oz. can of CHAIN KOTE, 16 oz. can of PP/CC, one pint of new SMOOTH STROKE Fork Oil and new ENGINE GARD in a 6 oz. bottle.

Send me _____ KAL-GARD Starter Kits at $15.50 each plus $3.00 shipping and handling. SMOOTH STROKE Fork Oil weight SAE ☐ 5 ☐ 10 ☐ 15 ☐ 20 ☐ 30.

NAME _____
ADDRESS _____
CITY _____
STATE _____
ZIP _____

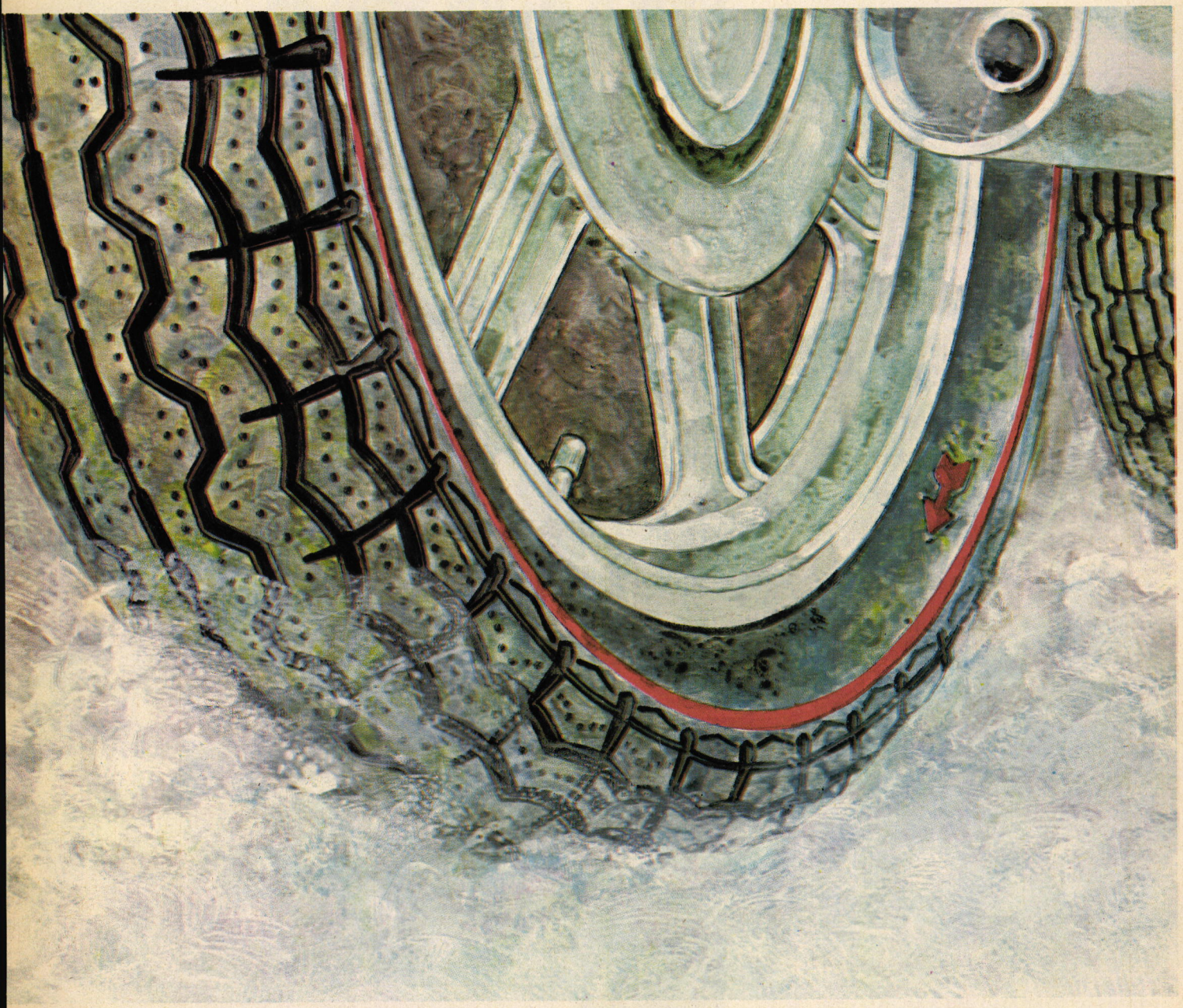
☐ Money Order
☐ Check

California Residents add 6% sales tax.

KAL-GARD®

16616 SCHOENBORN ST. · SEPULVEDA, CA 91343 · (213) 892-8674

THERE'S MORE THAN MEETS



More cycles ride on Dunlop than

TO DUNLOP THE ROAD.

There's K91 Mark II, the big footprint, big muscle, big mileage tire that stands up strong under heavy loads.

Belted construction gives long lasting performance.

Dunlop developed the K91 Mark II to meet the demands of today's growing number of touring riders.

The K91 Mark II rear tire is built with two tough belts of Kevlar that are pound for pound five times stronger than steel. In fact, the K91 Mark II is the *only* touring tire with this unique construction.

- Belted construction extends mileage without sacrificing traction. Its mileage is up to twice that of some stock bias ply tires.
- Belted construction, along with high air volume, gives unparalleled load carrying capacity.
- Belts help keep the tread stable when touring the open road.
- Heavy-duty rayon body plies under the belts help absorb road shocks.

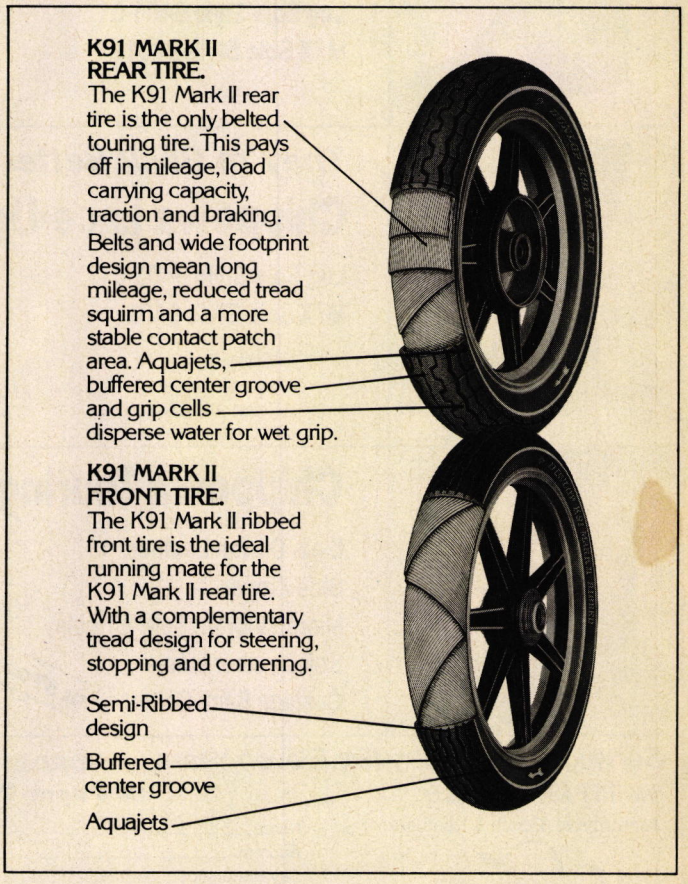
A tread pattern designed for adhesion in wet or dry conditions.

The tread design and compounding of the K91 Mark II are ideal for the ever-changing open road conditions encountered in touring. Aquajets, grip cells and a deep center groove combine to attack wet surfaces and channel away water. And they also contribute to pinpoint stopping with excellent control.

An ideal partner: the K91 Mark II ribbed front tire.

A perfect complement to the K91 Mark II belted rear tire, the semi-ribbed design of the K91 Mark II front tire combines with a continuous center groove for excellent straight-ahead steering, stopping and cornering in wet or dry conditions. And both front and rear K91 Mark II's fit tubeless or tube-type wheels.

So if touring turns you on, look for the Dunlop K91 Mark II front and rear tire package. They're made for each other... and for the high-performance superbikes of today.



DUNLOP

P.O. Box 1109
Buffalo, N.Y. 14240
716-879-8200

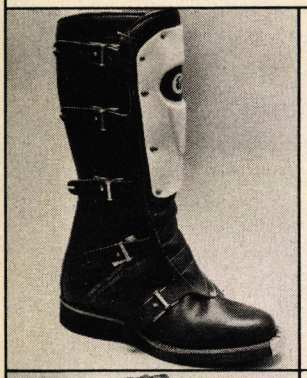
any other tire in the world.

RISTER INDUSTRIES

Introduces

Chippewa Country USA ™

Only premium raw materials go into the footwear made in Chippewa County USA. ™ Yet, it is the skill of the American craftsmen who live and work here that is truly responsible for the fine quality footwear produced at Chippewa Shoe Co.



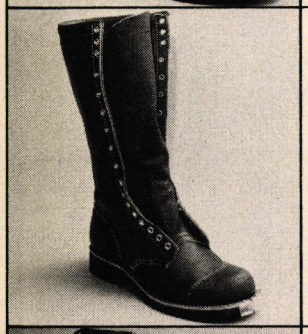
Motocross/Enduro

Top Grade 6 oz. Oil Tan Leather.
Impact Plastic Shin Guard.
Heavy Foam Ankle Pads.
M/X Sole Double Stitch On.
Lug Sole Style 9401-01.
M/X Sole Style 9401.

PRICE **$134.95**

Sizes 6–12
½ sizes included
13–15

Not Available Until Aug. 1.



They're Back Better Than Ever.

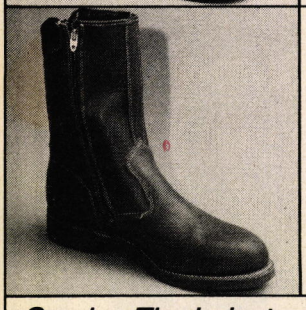
Chippewa Lace-Up.

Lug Sole Style 9403-01.
M/X Sole Style 9403.

PRICE **$98.95**

Sizes 6–12
½ sizes included.
Sizes 13–15

IN STOCK



Chippewa Touring.

6 oz. Oil Tan Leather.
Side Zipper.
Minine Vibram Sole & Heels.
Soft Leather Insole
Cushion Back Collar.

Width B
9–12, 13 D/EE
7½–12, 13
Other Styles Coming Soon.

IN STOCK

PRICE **$75.95**
Style 3400
Color Brown

Serving The Industry For Eleven Years.

We **REPAIR** All Types of Motorcycle Boots & Leathers

ORDER BY MAIL
Or Phone 714-985-0922

Name _____
Address _____
City State, Zip _____
Phone _____
☐ MO ☐ Check ☐ Visa
☐ M/C # _____ Exp. Date _____

QT	Size	Style	Cost	Total

Repair Request _____ Shipping
_____ Calif. res. add 6% Tax.
_____ TOTAL

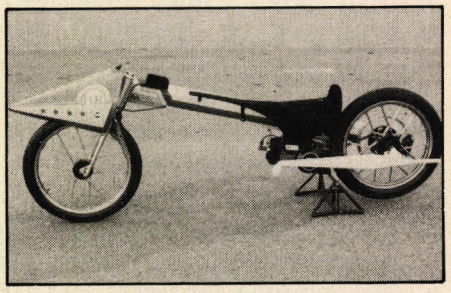
Closed Sunday & Monday.

Add $3.50 For Shipping & Handling Per Pair.

Rister Industries 134 N. Second Ave., Upland, CA 91786. Dealer Inquiries Invited.

prototype for Honda's **1981** lineup.

- Almost in the same breath, the same sources speculate that **Honda** will use similar technology on a **big-bore two-stroke enduro** bike for the new model year.
- All of which might be in **conflict** with the popular notion that Honda is preparing to **Pro-Link** a **hot** version of the **XR500** for 1981.
- And while the **pump** is primed for thumpers, reports from Over There show that **Gilera** is just about ready to unveil a new **500cc** single.
- Sooner or later the rumor mill grinds around to most manufacturers, and **BMW** is no exception. The latest on BMW's long-awaited new **multis** is that they will have **radically different** frames that will cradle **16-valve** four-cylinder engines. And further, that the engines will be horizontally opposed.
- Something else that you can look forward to is more **alcohol,** if the stories are right. There's talk that that Brazilian-made **Honda alcocycles** will find their way up to **oil-starved** North American markets later in the decade.
- And finally, injecting a little **car-think** into the **complex** decision of which bike you will buy, repeated talk has circulated that at least one of the Big Five will soon begin an active program of pushing **factory-installed options** on future bikes.



Minarelli's "smallest dragster in the world"

Getting fast through power-to-weight ratio.

APART FROM THE CROWD

- Dragbikes have always lived in a world of **superlatives.** Incredible horsepower figures, **tire-shredding** acceleration and ultra-low ETs are the stuff and substance of **dragracing** legend. Enter the Motori Minarelli 50: equally superlative, but at the other end of the scale. Billed as the smallest dragster in the world, this new quarter-miler is powered by a **tweeked-up** version of the **50cc** Minarelli **automatic** moped engine. And that could have benefits, since getting parts should be easy. After all, 150,000 of the engines are produced each year.

When its **250cc** underseat fuel **tank** has been topped off with premix and the 50 is ready for competition, it produces an impressive 5.5 **horsepower** at the rear wheel—enough juice to hurl the 62-pound diminutive dragbike down the straight at a **blistering** 64 mph. No parachutes are used for braking; a single rear-mounted disc is deemed sufficient. ●

COMPARISON TRACK TEST:

Open Warfare

PHOTOGRAPHY: LEN WEED

Kawasaki KX420 Uni-Trak vs. Yamaha YZ465G Monoshock: Duelling single-shockers, Open-class style.

BY DAVID DEWHURST

On paper, Kawasaki's KX420 and Yamaha's YZ465G are natural enemies. And for obvious reasons. Both are all-new from the knobs up, both have magnum-force motors packaged in the large economy size, both represent the latest in berm-shooting technology from Japan and, maybe most important of all, both have the only single-shock rear suspensions in the Open Class. The Yamaha's suspension, of course, is the grizzled veteran, the tried-and-proven Monoshock concept that's been around in one configuration or another for more than seven years. And Kawasaki's is the new kid in town, the innovative Uni-Trak rocker-and-linkage system that's brand-new and full of potential but still a bit misunderstood.

Everyone knows, though, that motocross races aren't won on paper; they're won on dirt, on gruelling hell-holes of racetracks that sometimes seem purposely built to test the metal of the motorcycles and the mettle of those who ride them. And it is on these weekend battlefields where the *real* differences are crucial, where each machine's true personality emerges, no longer able to hide behind a volley of engineering hypothesis and advertising hype. It's war, pure and simple, and the best bike usually wins.

Thus it is the best single-shock instrument of Open-class combat that this comparison intends to find. The following pages will escort you through the nuts and bolts of each bike to give you an inside look at how they're both built, followed by a bare-knuckles, no-holds-barred on-track comparison that can and will have only one winner. Along the way you'll venture into the growing world of one-shock rear suspensions to find out what makes Uni-Trak better, worse than or no different from Monoshock and why you should care about such matters. And when the smoke has cleared and the final score tallied, the best bike *will* have won. The question is, which one will it be?

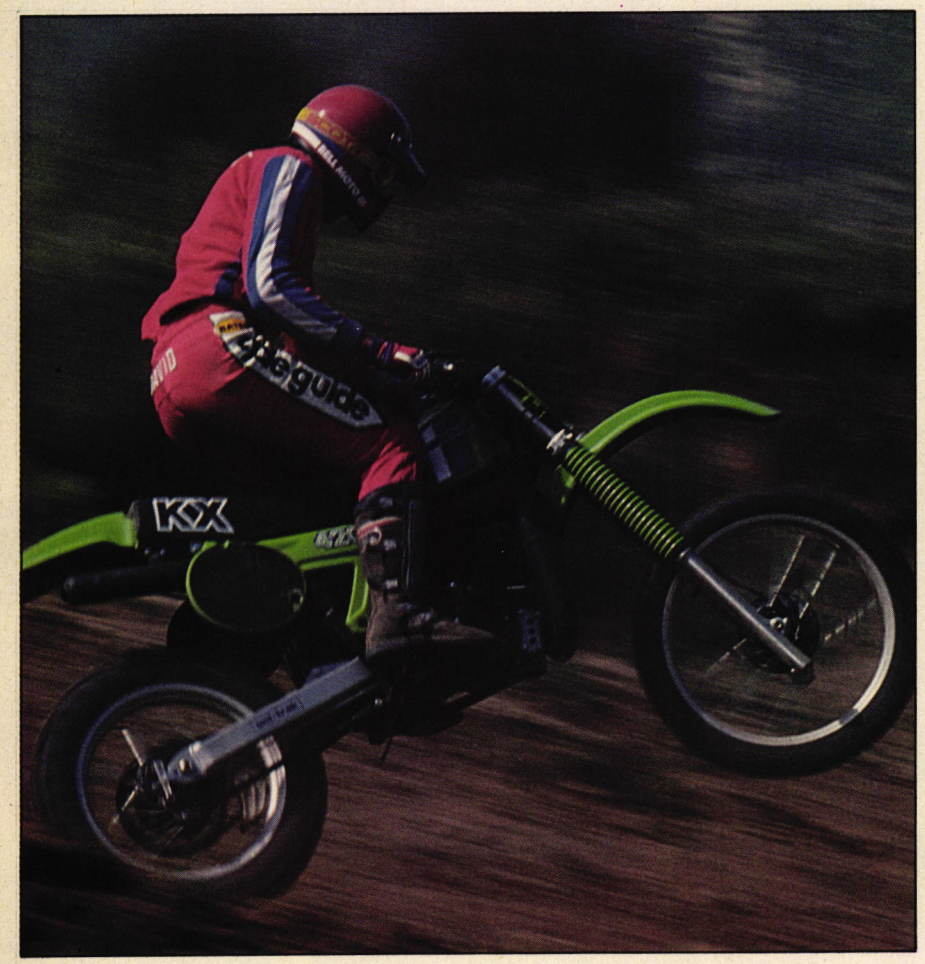
Better yet, why?

Continued

THE HARDWARE:

Kawasaki KX420 Uni-Trak

Combining technology of today with a Uni-trick of tomorrow.



The most amazing thing about the KX420 is the fact that you can actually walk into your local Kawasaki dealer and buy one. It's staggering that Kawasaki was able to develop the sophisticated technology of its Uni-Track suspension and deliver it to the public so quickly.

After all, it is little over a year since we first caught a glimpse of Uni-Trak on Brad Lackey's works racer. When the system was introduced it was far from perfect and even further from winning, yet Kawasaki even then had committed itself to building a production version. The evolution of Uni-Trak from works to production took less than a year, an incredibly short period of time to develop an entirely new and complex suspension system.

This rear suspension isn't the only new feature of the KX420, though. You get a lot more than reheated Kawasaki greens when you order up an Open-class Uni-Trak. Everything from the spokes to the crankshaft is new. Of course, the crankcases could be full of tuna fish and few people would notice. It's the rear suspension that attracts everyone's attention. And that's just what Kawasaki wants, for Uni-Trak is intended to be an important sales feature as well as significant suspension technology. It certainly succeeds at both, since Brad Lackey has won world championship GPs with his Uni-Trak motocross bike and Kork Ballington used an earlier version to capture world roadrace championships in 1978 and 1979.

The production version of Uni-Trak, however, shares little more than its basic layout with Kawasaki's works bikes. There's a box-section swingarm devoid of the usual shock mounting tabs. From two Heim-jointed mounts located close together on the swingarm forward of the rear wheel, two steel tubes extend vertically to a common bushing at one end of a rocker arm. The other end of the rocker arm is attached to a massive single shock absorber, the bottom of which is fixed to the frame behind the engine. The rocker arm uses a section of the frame beneath the seat as a fulcrum. Any movement of the swingarm moves the two vertical arms, which in turn operate the shock through the rocker arm.

The Kawasaki works machines employ this system to produce a rising-rate rear suspension. But because the geometry of the 420's layout has been compromised in order to share some components with other Kawasaki Uni-Traks, it actually delivers a falling-rate suspension. The huge shock absorber has four rebound damping settings, but you must dismount the unit before you can adjust either the damping or the spring preload. In addition, this shock is sealed and not rebuildable. You can adjust the Heim joints of the vertical tubes to give you slightly more or less wheel clearance as well as to change the effective steering head angle to the same degree, but it also means dismounting part of the linkage.

At a weight of 17 pounds, the shock and spring seem up to the job of supporting an Amtrak railway car. To some degree they have to be, since the 3.0:1 leverage ratio of wheel travel to shock travel (a full point higher than Yamaha's Monoshock) imposes terrible loads on the shock during the wheel's 11.3 inches of travel. Still, the single-rate spring (using wire an amazing 15mm in diameter) provides a rate some 25 percent stiffer than that of the KX250 Uni-Trak which is only about 15 pounds lighter. That seems like a large step in stiffness for so few pounds.

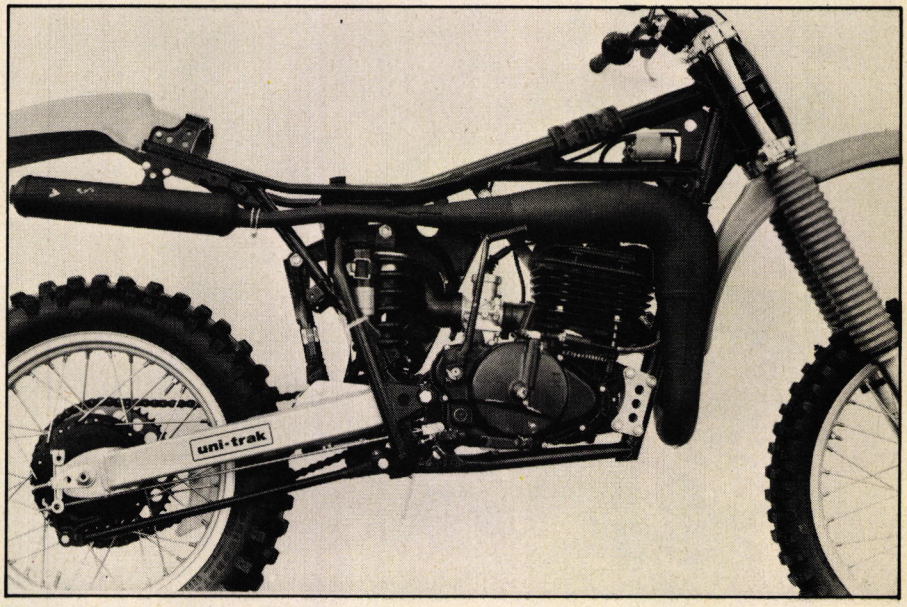
Like the shock, the frame also is built to withstand a terrible pounding, largely from the shock itself. It's particularly heavily built in the area behind the engine. Massive gussets back up equally massive frame tubes below the seat while a long backbone tube extends all the way from the steering head to the rocker arm

fulcrum. All this bridgework helps tip the scales the wrong way for this bike. One saving grace of Uni-Trak is the fact that the center of gravity of this bike is located fairly low and quite close to the center. But low center of gravity or not, the KX420 is the heaviest bike in motocross at 250 pounds and most of the blame must go to the frame and rear suspension.

To help compensate for weight elsewhere, the engine is fairly light. It has its roots in the piston-port KX400 motor of 1976, but there's not much resemblance now. Semi-circle flywheels and a tiny internal-rotor CDI give this engine a quick-revving character that distinguishes current works engines from the tractor-like KX400 motor. And the KX420 has a different transmission, clutch and crankcases to further distinguish it from the old 400. The barrel is light thanks to Kawasaki's patented Electrofusion cylinder coating. Special wire rods are vaporized with high-voltage electricity, and the cylinder walls are thereby sprayed with a thin coating. Kawasaki claims this liner wears better than ordinary steel and dissipates heat better. Electrofusion also insures a far better finish on the port windows, and all seven of the KX420 engine's ports benefit: a T-shaped exhaust, four transfers, a boost port and an oval inlet, all fed by a 38mm Mikuni through a six-petal reed valve.

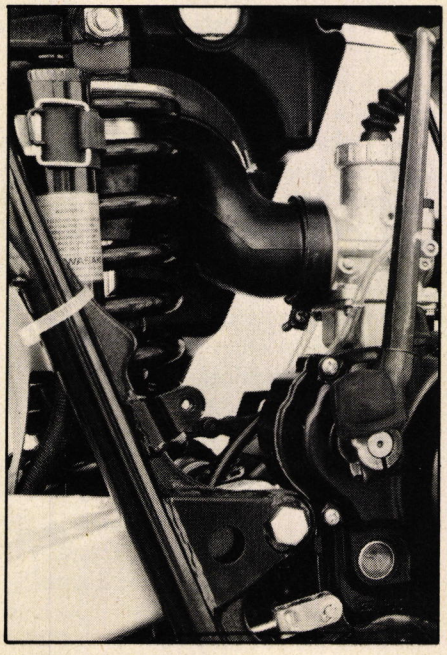
Only the countershaft sprocket's location tells you of this engine's KX400 heritage, really, for the four long inches from sprocket to swingarm pivot mean lots of chain fluctuation. As a result, Kawasaki uses very nice urethane rollers with needle bearings to help tension the chain properly. There is also plenty of rubber to protect the aluminum swingarm from damage and a nylon guide to keep the chain on the rear sprocket.

Like the chain-guide hardware, most of the KX420 is well-executed. The air-spring fork, rubber-mounted handlebar and brakes each live up to the sound and thoughtful engineering of the works Kawasaki Uni-Trak racers. But there are compromises that exist in the production bike that don't lie in the factory racers. Kawasaki's concern for durability has produced a heavy frame and a stiff rear suspension to insure that the bike won't come apart under the strain of competition. Unfortunately, both of these compromises affect the bike's behavior in crucial ways. So while Kawasaki's ability to speed the Uni-Trak from the experimental stage to the production stage is an impressive accomplishment, in some ways that rush to production shows in the way the KX420 performs. —*David Dewhurst*



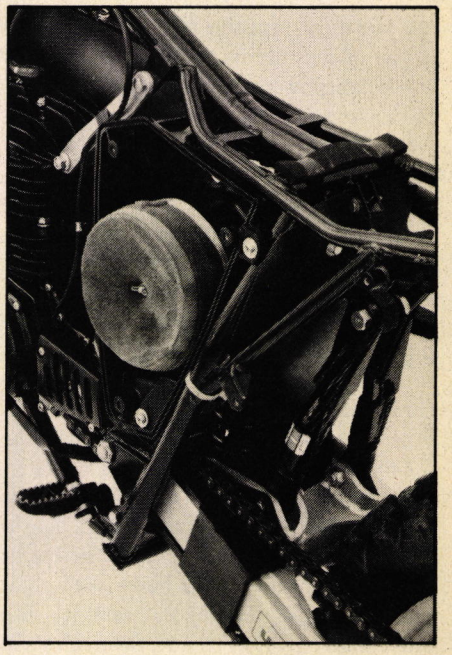
Familiar front-end and Uni-Trak rear

Complex link with motocross future.



Airboot restrictions

Fitting things around the Uni-Trak.



Heavy metal rear end

Keeping the mass down low.

Continued

THE HARDWARE:

Yamaha YZ465G

Cubic horsepower harnessed by born-again Monoshocking.

If you think that the YZ465 must, by virtue of its mammoth engine, be one of those overpowered, intractable, difficult-to-ride monsterbikes, your opinion is perfectly understandable. After all, history has proven that Open-class motocross belongs to motors in the 400cc range, that two-stroke singles displacing almost a half-liter traditionally are motocross white elephants. There haven't been many of them, but since the list is headed by infamous bikes of years past such as Yamaha's near-unridable SC500 and Maico's explosive three-speed 501, you can only be thankful. Just as you can only assume that the YZ465 simply is one more of the above.

But you'd be wrong if you did. Because with this bike, Yamaha has blown a hole in that bigger-is-not-better theory as big as the 465's 85mm cylinder bore. Not only is this King Kong YZ ungodly fast, it's also embarrassingly easy to ride. So much so, in fact, that you've got to wonder what has made building a successful 500cc motocrosser such a big deal.

Don't look in the engine for an answer, though, for close inspection of the 465's vital bits reveals no earth-shattering technology whatsoever. Rather, what you find is a standard-issue Yamaha motocross motor built the way they've been built for years. No variable-height ports borrowed from the YZR500 roadracer, no high-tech induction system, no nothing. Even the 38mm Mikuni carb and six-petal reed valve are right off of last year's YZ400F, and the 465's porting scheme is usual YZ stuff all the way.

One difference—as well as being the most technologically innovative part of the entire motorcycle—is an exhaust system that features an unusual bulge in the header pipe just a few inches from the cylinder's exhaust flange. According to Yamaha, this bulge causes just enough reflected-wave back-pressure in the lower rpm ranges to help the 465 produce an uncommonly wide powerband. And, obviously, another dissimilarity to the 400F is that the 465's power-producing pieces are bigger. The bore is up to 85mm from the 400's 82mm, and the stroke is stretched 7mm, up to 82mm. There's a proportional increase in flywheel weight that comes naturally with the longer stroke, and it is nicely complemented by the same external-flywheel capacitive-discharge ignition used on the 400.

But while the displacement-affecting pieces had to be larger for the 465, the rest of the 465's powerplant was scaled down. Most of the internals were made more compact than in the 400, and the engine cases seem almost to have been vacuum-formed around them. The primary drive and clutch were borrowed from the YZ250F, the gears in the transmission were reduced in width and the gear selector mechanism was redesigned and simplified. The result is a 465cc engine that, aside from its massive top end, looks more like a 250. It's narrower than last year's 400 engine and considerably shorter, as well. Not only that, the engine is *lighter*, which contributes significantly to making the 465 the lightest Open-class bike (at 228 pounds) in years.

Some of that lightness must, however, be credited to the 465's all-new chassis and rethought Monoshock rear suspension. The aluminum-bodied shock is shorter and therefore lighter, a feat made possible mostly by the removal of the de Carbon system (the high-pressure nitrogen gas and the floating piston that separates it from the damping oil) from the main body into a remote reservoir mounted on the frame's single front downtube. Also new is the shock's system of mounting, for the 1977-to-1979 arrangement in which the shock mounted inside of a hollow backbone tube is now history. The 465 uses a more conventional backbone that has the front shock mount located about halfway along its top surface. And that method of attachment keeps the shorter shock's mass down low for a lower center of gravity, and it gives the shock better exposure to a flow of cooling air.

Changing any of the Mono's many adjustments also has been made much simpler. Rather than having to poke a screwdriver through a hole in the frame to adjust the damping as on previous Monos, the 18-position damping knob and threaded spring-preload adjuster are right out in the open at the rear of the shock where it connects to the swingarm. And adjusting the front end has been simplified, too, because the leading-axle air-spring fork normally requires no static air pressure in its tubes, although air valves are fitted to the cap

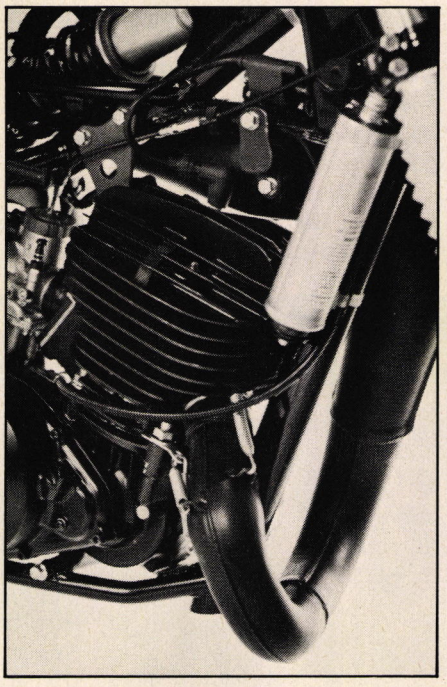
nuts on the tops of the tubes.

All of these chassis changes were not, however, intended only to simplify adjustments or trim off excess weight. Yamaha's designers were also looking for a stronger frame since, due to a lack of triangulation between the swingarm pivot and the steering head, the hollow-backbone YZ frames had been sufficiently lacking in structural integrity to crack and often break. And so the conventional backbone was employed, and with it the dual rear downtubes that E- and F-model YZs didn't have, along with a cylinder-head-to-backbone brace. That meant that to keep frame weight to a reasonable minimum, the traditional Yamaha double front downtubes had to be traded for a single-tube layout. So while the new YZ frame perhaps is not as strong in all planes as it could have been with double downtubes, it certainly is a vast improvement over the previous frame.

These design changes may have been beneficial to the handling, but they have proven disastrous to air filtration. The lowered Monoshock mounting has reduced the available room for an airbox to the point where the 465's filtering arrangement is the worst part of the entire motorcycle—if not the most poorly engineered filter found on *any* motocross bike. The two-stage, conical-shaped foam element is smaller in area than the 400F's filter; but worse yet, getting the filter in position is difficult, and insuring that it has a good seal around its periphery is next to impossible. Once the filter is in place, its two mounting wing nuts can easily be overtightened, thereby either warping or breaking the element's plastic framework and allowing unfiltered air to slip around the edges of the element.

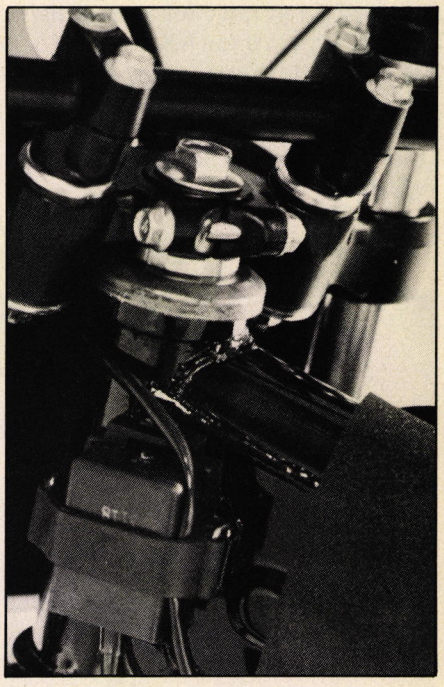
Proper servicing also is imperative for the 465's super-powerful twin-leading-shoe front brake. Properly adjusting the linkage that connects the two individual brake arms can be time-consuming, but once set, at least you'll be able to slow this motocross express at the end of those fast straights.

That's a feature you'll quickly grow to love and appreciate. For if any motorcycle ever was in dire need of some serious whoa-power at the ends of the straights, it's the 465, the fastest motocross bike ever built. But what's more important than the bike's sheer acceleration is the fact that Yamaha has been able to make this nearly 0.5-liter racebike excel where all others before it have failed, and that is in its ridability. Yamaha has proven, once and for all, that motocross and mammoth motors really can coexist. And that the 465 is neither white nor an elephant. —*David Dewhurst*



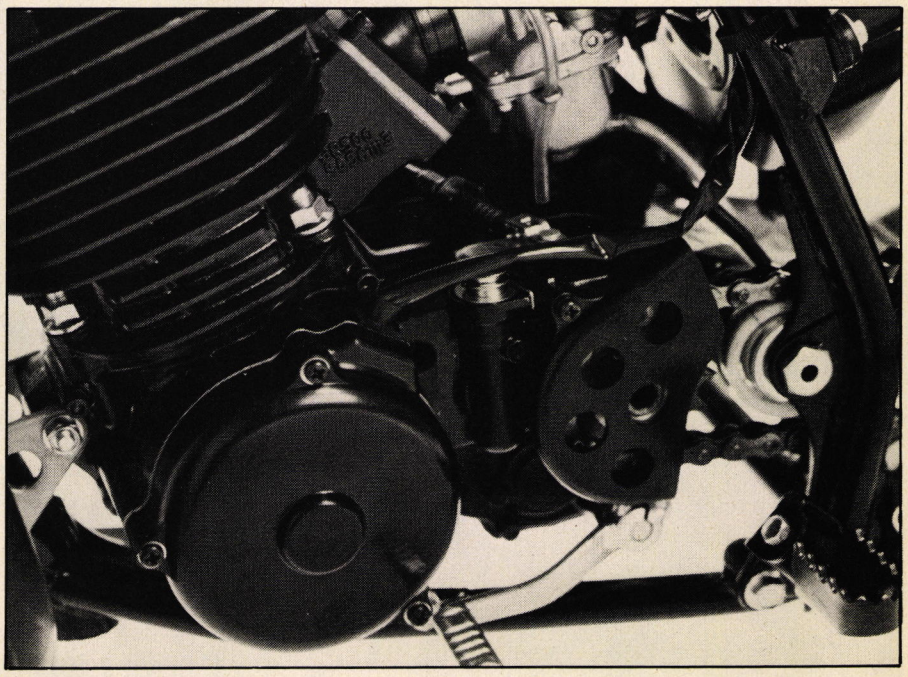
Fat front pipe for broader power

Perfect music from a well-tuned pipe.



Handlebar clamps in rubber

No great shakes for the rider.



Bite-size bottom end

Tiny cases containing little weight.

Continued

THE COMPARISON:

War Of The Worlds Apart

The suspension may provide the balance but it's the motor that tips the scales.

Maybe you can't tell a book by its cover, but if the KX420 and YZ465 are any indication, you *can* tell a bike by its color. Because despite having a host of similarities in specification and design, these two Open-class behemoths are not—repeat, *not*—alike in virtually any way that's related to their on-track behavior. They're as different in performance as they are in color, sharing no similarities in the way they start, stop, jump, turn, slide, steer or just plain *feel*. They may have been designed just a few hundred miles apart in Japan, but they perform as though conceived on different planets.

Even their single-shock rear suspensions, the feature that would seem to be a common denominator, share absolutely nothing on the racetrack. The Yamaha's Monoshock proves capable of handling a broad range of track conditions, everything from the stutter of little ripples to the crush of giant whoops. The Kawasaki's Uni-Trak, on the other hand, has a much narrower range of acceptable shock absorption. Small chops and ripples nearly defeat the Uni-Trak completely, and only

the bigger thumps are adequately absorbed by the rear end.

This is not, however, an indictment of Uni-Trak as a system of suspension but instead an indicator of what can happen when manufacturing cost-consciousness forces too many compromises. Somewhere along the line, much of Kawasaki's sophisticated works-bike technology didn't make it to the production stage. The rear spring rate is far too high, the bike is much too heavy and the rising-rate rear suspension used on the works bikes is not employed. Even with zero preload on the spring, the rear end of the 420 is so stiff that the wheel simply refuses to stay in contact with cobby, washboard-like surfaces. And so the KX skitters and dances badly enough to keep its lap times from being competitive with the 465's.

None of this can be blamed on the Kayaba front fork, for it, just like the very similar unit on the 465, is as good as any OEM fork you're likely to find on a Japanese MX bike. It is surpassed in shock absorption only by the forks on late-model Husqvarnas, even though the Kayabas are less flexible and utterly tunable. No, this problem is located solely at the rear, and it is only when you hit big, rolling bumps and whoops or make crash-landings from high-altitude jumps that the Uni-Trak performs competently. Still, the spring is so stiff that you'll probably never bottom the rear no matter what you do.

Considering the excessive spring rate, the Kawasaki actually works with surprising competence, a fact that speaks well for the Uni-Trak concept. A similarly oversprung twin-shock bike would, in our opinion, be much more unmanageable, and yet the Kawasaki is almost competitive in terms of rear suspension action. But because of the spring, using the preload and damping adjustments to dial-in the rear end is impossible. Zero preload is the only setting that's acceptable, because a softer spring with *more* preload is what's really needed. And the second stiffest of four damping settings is as soft as you can go, since the spring is too stiff to allow anything less. Moreoever, the very act of making those relatively ineffective adjustments is complicated because the entire shock must be removed, and that means removing the complete airbox.

In contrast, the YZ465 rolls out of the box set up right in the middle of the motocross ballpark, and an absolutely enormous range of adjustability is built into the Monoshock that allows it to be set just about anywhere *in* that park. Better yet, making most of the adjustments is so easy your grandmother could do it. Turning a

Continued

knurled knob on the shock under the rear fender selects any one of 18 rebound-damping settings, and the threaded preload adjuster nut is right next to the knob. Even the nitrogen pressure in the reservoir can be adjusted if you have access to the proper equipment. And if that's not enough, Yamaha has stiffer and softer springs available for the shock and fork.

More to the point, though, is that the Yamaha handles any kind of track conditions better than the Kawasaki regardless of how the Monoshock is adjusted. The shock's truly progressive-rate spring provides a wonderfully supple initial rate that soaks up the smallest of bumps, yet as the wheel rises there's sufficient increase in rate to combat the cobbiest of track surfaces. So forget all of those old stories about bucking-bronco Monoshockers; they may have been true in years past, but not on this YZ. The 465 offers one of the best, most quirk-free suspensions in all of motocross.

This forgiving nature extends to the steering, which allows the rider total freedom of choice in selecting lines through corners. The 465 is not top-heavy in the least, dispelling yet another Monoshock bad-rap, and in fact feels to have a *lower* center of gravity than most comparable twin-shockers. And it also no longer is dependent on slamming off of big berms in order to turn. The 465 can be flicked into just about any kind of corner and will follow the front wheel without a whimper.

You can either use the superb and powerful twin-leading-shoe front brake to dive into the inside of the turn or else drift out and bounce off the berm with confidence.

In contrast once again, though, the Kawasaki never inspired a full measure of confidence in any of our test riders. It can be made to corner reasonably quickly using just about any line, but the front wheel often washes out unexpectedly in slower turns, and the bike regularly tries to sit upright while cornering. The latter could be due in part to the KX's 250-pound weight, despite Kawasaki's claims of a lower *cg* with Uni-Trak; and the former problem is not aided on dry tracks by the low-buck Bridgestone M17 front tire. Better tires all around, in fact, will help the Kaw quite a bit, but they won't solve the problem with washouts altogether.

Further compromising the 420's lap times is its engine, which is unusually peaky for an Open bike and owns a strangely narrow powerband, as well. It's light-flywheeled, and lacks both low-rpm grunt and high-rpm horsepower. There's lots of midrange, naturally, enough to propel the KX at a more-than-respectable rate, but only when the revs are within the powerband and the rear wheel has at least average traction.

What this means is that the Kawasaki must be ridden almost like an oversized 125, using lots of gearchanges supplemented by a generous amount of clutch-fanning when you're coming out of certain turns. If you do everything to perfection, and if you've got the right tire on the rear, and if you don't make any other mistakes, the KX420 can cut lap times comparable to just about any other Open-classer's. But if you commit the slightest mental error, don't expect the engine to help you out. Just like its chassis, the Kawasaki's motor isn't very forgiving.

With the 465, though, Yamaha almost could use the word "forgiving" as a registered trademark. It is the easiest-to-ride Open-class motocrosser *Cycle Guide* has ever tested, which is a real claim to fame considering that it is also, by a sizable margin, the *fastest*.

The Yamaha doesn't simply go fast, which is something that a lot of Open-classers can do; nor is it explosive, something that the Kawasaki most certainly is. Instead, the 465 does the impossible, lunging down the straights like some sort of low-flying berm-to-berm missile while remaining perfectly tractable and totally predictable all the while.

It takes, in fact, a conscious effort to make the YZ *not* go fast. For one thing, the powerband is easy to detect: If you hear any noise coming from the end of the exhaust pipe, the engine is in its powerband. And no matter what gear it's in or what rpm it's turning, the 465 will accelerate with alarming quickness. You can cut faster lap times using just one or two gears on the Yamaha than you can using the entire gearbox on any other Open bike.

In the end, that monster of a motor proves to be the real difference between these two bikes. You can easily show how the Yamaha has the better single-shock rear suspension or point out the virtues of its friendlier steering or give it a medal for having good all-around handling; but once that killer 465 motor is brought into the picture, everything else seems unimportant. The 465 engine is so devastating that if you put it into the Kawasaki and slipped the 420 into the Yamaha, the green bike would then be the better overall motocrosser, awkward chassis and all, simply because the yellow bike wouldn't be able to catch it. So it takes little imagination to see how combining the superior chassis with the Yamaha engine results in a bike that outclasses the KX420 and everything else in the Open class, as well.

It's only fair to note that the KX420 could be a much better motocrosser, maybe even the second-best in the class—behind the 465, of course. But that would require Kawasaki to recalibrate the rear suspension, rethink the powerband and remove about 20 pounds of chassis fat. The KX420 certainly is a perfectly workable concept, but Kawasaki just didn't put as much effort into its execution as Yamaha did into the 465's.

And it shows. The Yamaha is such a truly awesome Open-class racer that, in all fairness, it should compete in some other class, one reserved for motorcycles that transcend the established limits of the Open class. It could be called the Super Class or the Ultimate Class or something else appropriate. Something like, maybe, the Yamaha YZ465 Class. •

Continued

MONOMANIA EXPLAINED:

Shock Treatment: Theory And Practice

In the end, the hard part isn't opting for a single shock, but deciding where to put it.

• Like it or not, twin-shock motocross bikes seem headed the way of the dinosaur. And it could happen at any time, starting just about right now.

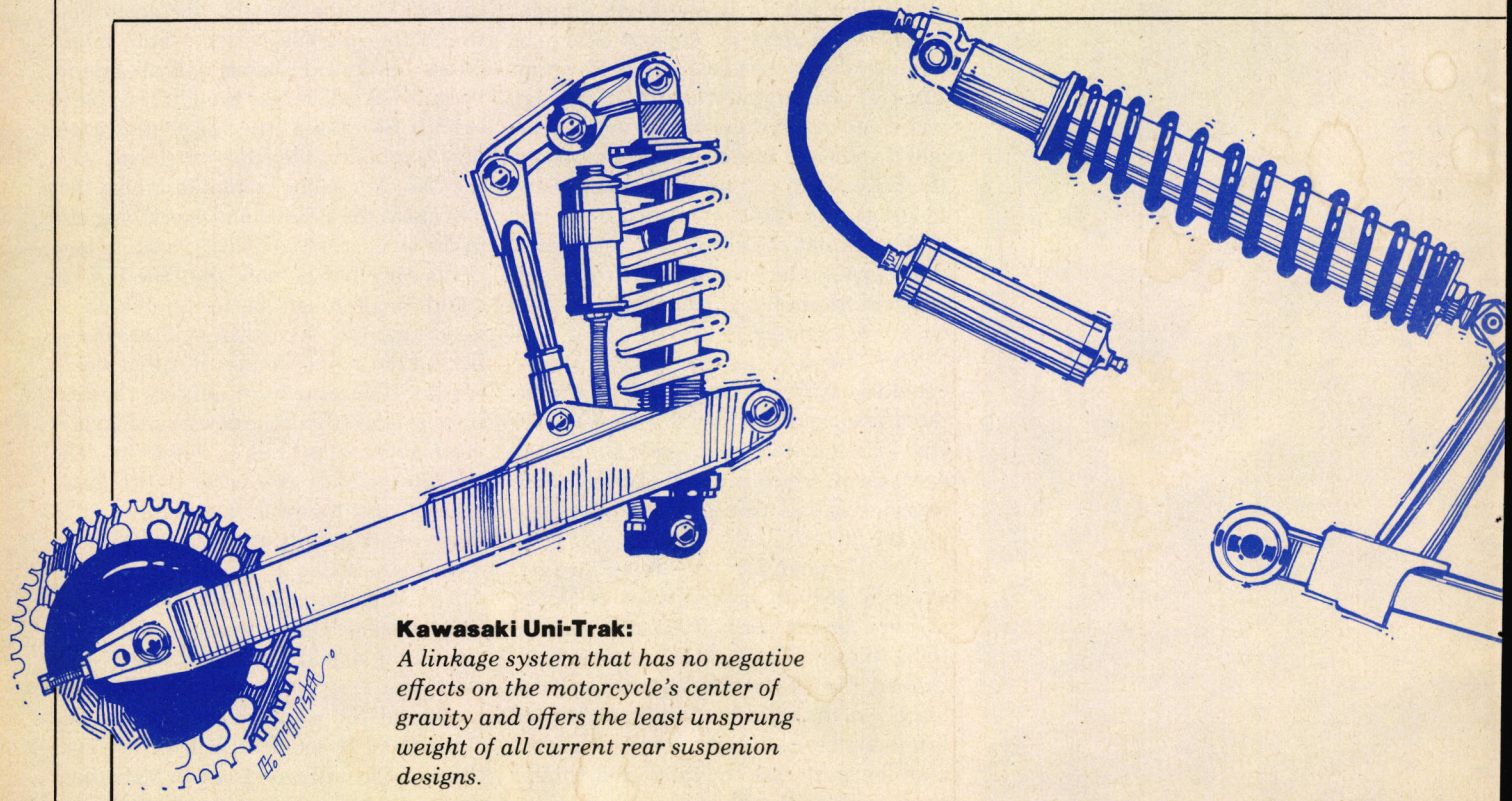
Clearly, that's the message spelled out by current rear-suspension technology, from racetracks all around the world to the showroom right around the corner. Two of the four Japanese brands now employ single shocks on all of their production motocrossers, and three of them utilize lone-shock designs on their works bikes. Even the last Oriental bastion of twin-damper philosophy—Suzuki—now has several one-shock works machines competing on the GP circuit. None of the European firms has much interest in solo-shocking at present; but the Japanese are such a dominant force in motocross these days that their designs can and probably will transform suspension technology across the board.

Don't get too choked up at the prospect of two-shock extinction, though, for single-shocking has a lot to recommend it. Each company may have taken a considerably different approach to one-shock design, but from an engineering standpoint they all claim to have made the switch for pretty much the same reason: Dual shocks seldom offer equal springing and damping on both sides of the swingarm. Dampers wear and springs settle at differing rates (if, in fact, any two are ever equal to begin with), and so most twin-shock machines with a few motos behind them have, in all probability, mismatched rear suspension components. And that can add to swingarm flex and rear-wheel deflection, neither of which is helpful on the bumpy road to better handling.

There are numerous other mechanical advantages to be had with a single shock, along with a few *dis*advantages. But how many of which sort you get depends upon whose one-shock setup you're referring to and how well it has been executed. With Yamaha's Monoshock and Kawasaki's Uni-Trak, however, you find two vastly divergent schools of thought. Yamaha's system, for instance, deals with the aforementioned swingarm flex in two ways. It plugs rear-wheel loads into one centrally located shock, thereby equalizing suspension resistance on both sides of the rear axle; and because a triangulated swingarm is needed to connect the rear axle with the backbone-mounted shock, the arm itself is much more rigid than a dual-shock arm.

Of course, the price for this rigidity usually is a high center of gravity caused by having a large and heavy shock/spring assembly stuffed up under the gas tank. But Yamaha has studied this problem seriously ever since buying the Monoshock idea from Lucien Tilkiens, one of Europe's most respected designers-at-large, back in 1973. Consequently, today's Monos don't feel any different, *cg*-wise, than the best dual-shock motocross bikes.

There are, however, a few disadvantages that have bothered Yamaha's one-shock design from the outset, such as the compromises it forces on airbox configuration and exhaust-system routing. Then there's the fact that the swingarm compresses the shock in virtually a linear manner, thereby requiring an expensive progressive-rate spring to achieve a rising-rate suspension,



Kawasaki Uni-Trak:
A linkage system that has no negative effects on the motorcycle's center of gravity and offers the least unsprung weight of all current rear suspenion designs.

the type that's felt to be the most advantageous for motocross work.

On the other hand, those shortcomings seem all but insignificant in light of the Monoshock's benefits. It offers slightly less unsprung weight than dual-shock systems, and it lets a motorcycle be narrow in its rear quarters while providing near-total crash protection for the shock. At one time, fade (due to restricted airflow under the gas tank) and poor access for preload/damping adjustment were major problems; but the newest Mono gets sufficient cooling air to deter fade, and the spring preload, damping adjustment and nitrogen pressure all can be regulated without removing a thing from the motorcycle.

That's certainly not the case with the Uni-Trak. The huge shock must be plucked from the innermost depths of the chassis to have its preload and damping adjusted, and there are no provisions for changing nitrogen pressure. Instead, Uni-Trak's benefits lie in other areas, such as offering about as little unsprung weight as you're likely to find on an Open-class bike. Only the wheel and the rear half of the swingarm contribute significantly to the weight that is unsupported by the spring. In addition, locating the shock behind the engine affords a lower center of gravity than with Yamaha's Mono (or with most dual shocks, for that matter). And the shock's weight is positioned close to that *cg*, thereby reducing the bike's polar moment about its transverse axis—another potential handling asset.

What's more, the Uni-Trak's linkage can easily be configured to provide a rising suspension rate (although the 420's is not) with just a straight-wind spring. It also affords Kawasaki the economy of using the same linkage on all of its Uni-Traks and simply tailoring each model's suspension with different shocks, springs and small changes in leverage points. Too, like Yamaha's system, the Uni-Trak eliminates bothersome shock bulges while providing excellent shock protection. And, according to Kawasaki, there's even a surprising amount of air moving around behind the engine, even though much of it is *warm* air.

Still, Uni-Trak has, in addition to shock inaccessibility, a number of drawbacks. One is a substantial amount of friction due to its many pivot points (six, as opposed to four bushings in a dual-shocker and two on a Monoshock) and the fact that three of those joints must rotate considerably further than do regular shock bushings. Uni-Trak also is heavy, carrying 10 to 15 pounds of excess baggage in the monstrous shock (17 pounds with spring and reservoir, as opposed to the Yamaha's 10.5-pound shock) and in frame reinforcement around the rocker pivot to handle the massive stress loads concentrated in that area. And unlike the Monocross swingarm, the Uni-Trak's arm is heavily stressed, since the wheel's forces act at one end and the suspension's at the other, with nothing in between but two lengths of box-section aluminum.

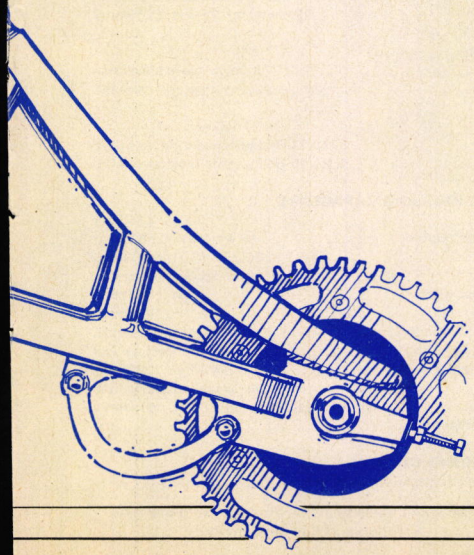
It appears, then, that Kawasaki is right where Yamaha was back when it first started with the Monoshock. Kawasaki has tentially marvelous suspension concept that needs additional R&D work before it can compare favorably with most other systems. That's why Kawasaki's goals for 1980 include shedding weight, supplying on-bike shock adjustments and providing rising-rate suspension.

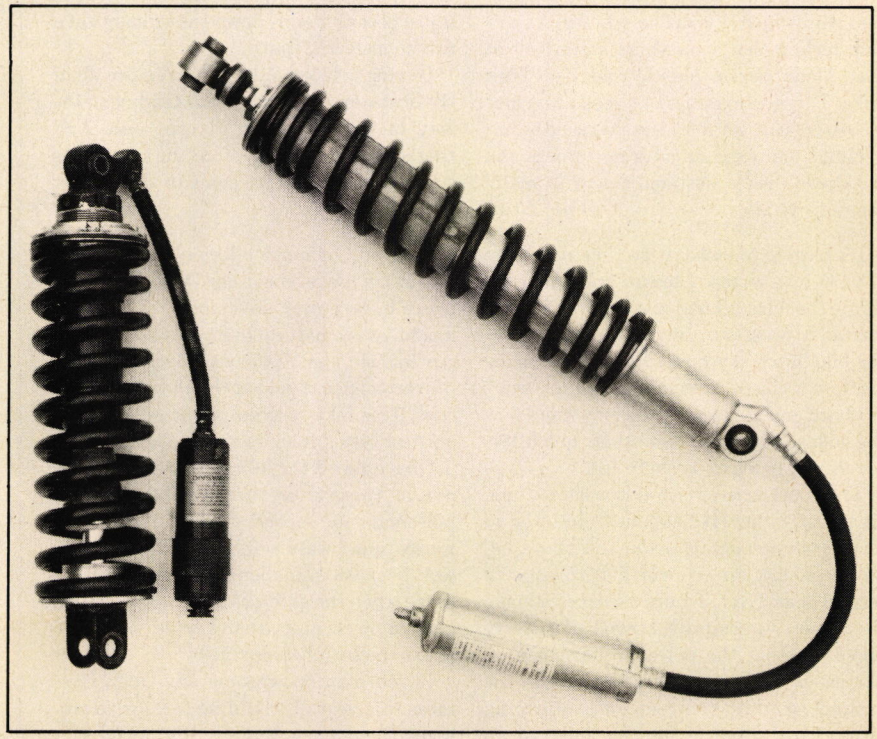
But even as it is right now, Uni-Trak serves a purpose that's at least as important as improving rear-wheel control, and that's as a powerful marketing tool. In a sport as image-bound as motocross, it's crucial for a motorcycle to have a clear-cut identity, something that immediately sets it apart from all the rest. That something can be as simple as the bike's color or, in this case, as complicated as its rear suspension. Yamaha's Monoshock system offers the best evidence in support of that, for most people over the years have referred to that company's motocross models not as "Yamahas" or "YZs," but instead simply as "Monoshockers."

So if you've got a dual-shock motocross bike parked out in your garage, please be informed that it has officially been placed on motorcycling's Endangered Species list. Sure, it might have all of the trick stuff, things like an a "banana" swingarm, damping-adjustable air shocks and a foot of wheel travel, but that won't make a difference. Any day now, it's going to turn into the longest-travel dinosaur you've ever seen.

—Paul Dean

Yamaha Monoshock:
A direct-acting system that offers a more-rigid and less-stressed swingarm and the widest range of easily accomplished adjustments found on any rear suspension.





KX's 17-pound steel shock unit (left) and YZ's 10.5-pound aluminum Mono (right)
Evidence of Yamaha's seven-year head-start in single-shocking.

Continued

Ride Review

Kawasaki KX420

• The KX420 reminds me of the Open-class motocross bike that existed in the dark corners of my imagination five years ago, before I had ever ridden one. It's enough to strike terror into your heart. Gassed up, the 420 weighs nearly twice what I do. The massive piston shakes the entire frame and indeed raises blisters on my left hand. The rear suspension pounds me and the front end requires a firm hand in the corners. The powerband threatens. It's the kind of motocross bike that only men of steel would consider riding.

Still, motorcycles this intimidating have been superseded by bikes that get you out of trouble, not into it. And for anyone smaller than a defensive end, that's the Kawasaki's most important failing. It'll go fast enough, but it's not the sort of motocross bike you'd want to make a mistake on unless your insurance is completely paid up.

—Michael Jordan

• What a disappointment. After a season of impressive performances by Lackey and Weinert on their Uni-Traks, and after observing that the KX models at least *looked* like works-bike clones, I was ready to be sent into seventh moto-heaven by the 420. I figured that of all the Uni-Traks, this one would flat knock my socks off with deft handling and hellacious horsepower.

I wasn't even close. The Kaw's handling would *scare* my socks off before it would knock them off and the only thing hellacious about the power is the abruptness with which it is delivered. Still, I can't help feeling that somewhere amidst all of that Mean Green plastic and Uni-Trak linkage are the makings of a really fine motocrosser. But until Kawasaki decides not to cut so many manufacturing corners, the 420 doesn't seem destined to cut so many competitive laps. *—Paul Dean*

• It's hard to put what it was like riding the KX420 into words. I mean, how can I describe the feeling I had just as the front end started to wash-out, only to have the rear of the bike pitch skyward and slam me to the earth in a classic bone-crushing high-side? It's hard enough to picture in my mind how the bike could have done that, much less describe it in living Technicolor.

The front wheel wash-out wasn't a one-shot deal, either. It happened too often to inspire much confidence in the bike's behavior at any speed over half-throttle in second gear. Even if I did manage to make the corners successfully, I then had to worry about whether the power would come on just as the stiff suspension bounced off the ground, sending the rear end squirming around towards the steering head at an alarming rate. Basically, I'd rather watch a KX420 than ride one. *—Dean Taylor*

Yamaha YZ465

• You've got to figure that there's a reason that YZ465s are selling for $500 above list price these days. The reason is simple: The 465 can lay claim to being the final perfection of Yamaha's motocross formula.

Each aspect of the 465's character backs up this claim. The Monoshock insulates you from the abuse the rear wheel takes, helps the bike track dead-straight across the whoops and, for a change, adjusts to track conditions at a moment's notice. The double-leading-shoe front brake burns off speed with minimal lever effort. The front tire can carve a line around a corner as precisely as a scalpel.

For the novice, the 465 might be considered dangerous, because it takes you into the twilight zone of speed and handling so quickly. But at the same time, it can be a novice's biggest asset, for no other Open-class bike provides such a friendly introduction to speed. *—Michael Jordan*

• Riding a 465 in the Open class isn't like cheating; it *is* cheating. It's worse than having Nolan Ryan on a Little League team or Kenny Roberts in a club roadrace. Any time there are 465s in a moto, the riders of the other bikes may as well load up and go home, since they don't have a chance.

All it took to convince me was one ride. Within two laps I was cooking around my favorite track faster than I ever had on any other motorcycle. And the ease with which the 465 goes wickedly fast is just short of sinful. It never seems to work up a sweat as it just sort of *moans* down the straights at a ridiculously low rpm.

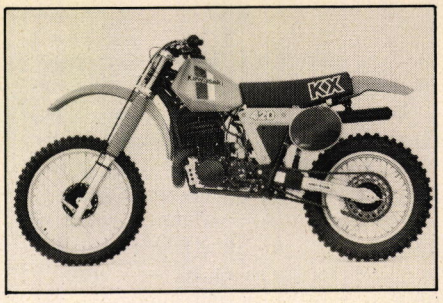
Buying a 465 should, then, remove all of the obstacles that have been standing in the way of your winning. Except one. And that's what to do with all of the other guys who you just *know* are going to show up on their own 465s. *—Paul Dean*

• First off, I should tell you that my one passion in life has been the Open class. The brute horsepower developed by big-bore machines is a natural high. I love it. So, to a guy like me, the YZ465 was like finding the proverbial pot of gold at the end of the rainbow. This bike belches power everywhere; our test bike's track record proves it.

I have raced the 465 in four motos, and out of those four the Yamaha had two holeshots, one second place and one third. Every time I wasn't first to the first turn, it was because somebody else was able to judge when the gate was ready to fall with a little more accuracy than I could, so his 465 got to the turn before mine.

If you plan on winning any Open class races this year, it would be to your advantage to have a new Yamaha. It's much easier to win when you have the lead at the start.

—Dean Taylor



Kawasaki KX420

SPECIFICATIONS:

IMPORTER: Kawasaki Motor Corp., USA
2009 East Edinger Avenue,
Santa Ana, California 92711

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $1999

ENGINE

Type	two-stroke vertical single
Port arrangement	one reed-valve-controlled intake, four main transfers, one booster transfer, one exhaust
Bore and stroke	83.0mm x 78.0mm
Displacement	422.0cc
Compression ratio (corrected)	6.9:1
Carburetion	one 38mm Mikuni slide/needle
Air filter	washable oiled foam element
Lubrication	pre-mixed fuel and oil
Starting system	primary kick
Ignition	internal-rotor magneto CDI
Charging system	none

DRIVETRAIN

Primary drive	straight-cut gears
Primary drive ratio	2.50:1
Clutch	wet, multi-plate
Final drive type	# 520 chain (5/8-in. pitch, ¼-in. width)
Final drive	50/14 : 3.57:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.00	17.85	4.4
II	1.45	12.98	6.0
III	1.18	10.54	7.5
IV	0.95	8.52	9.2
V	0.79	7.06	11.1

SUSPENSION/WHEEL TRAVEL, IN.

Front	air/spring, 38mm-diameter stanchion tubes/11.0 in. (279mm)
Rear	20mm spring preload adj. 4-position adj. damping/11.3 in. (285mm)

BRAKES

Front	drum, single-leading shoe
Rear	drum, single-leading shoe, rod-operated

TIRES

Front	3.00x21 Bridgestone Motocross M17
Rear	5.10x18 Bridgestone Motocross M20

DIMENSIONS AND CAPACITIES

Weight	250 lbs. (113kg)
Weight distribution	46.4% front, 53.6% rear
Wheelbase	59.5 to 60.7 in. (151 to 154cm)
Seat height	38.0 in. (965mm)
Handlebar width	33.7 in. (857mm)
Footpeg height	17.1 in. (434mm)
Ground clearance	14.0 in. (355mm), at frame cradle
Steering head angle	28 degrees from vertical
Front wheel trail	4.72 in. (120mm)
Frame	tubular chromoly steel, single front downtube
Fuel tank	plastic, 2.2 gal. (8.5/), no reserve
Instrumentation	none

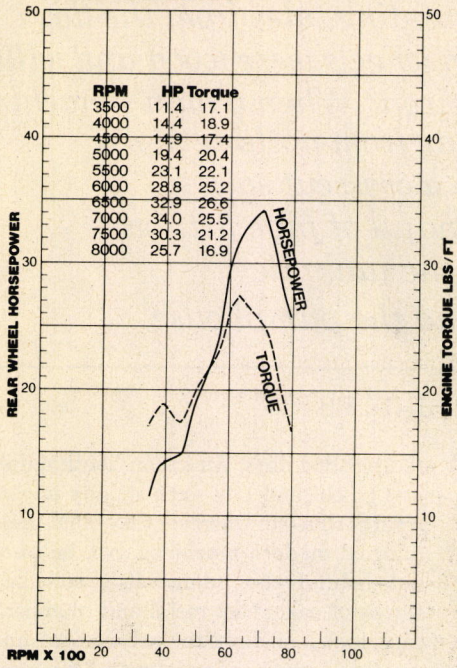
PERFORMANCE

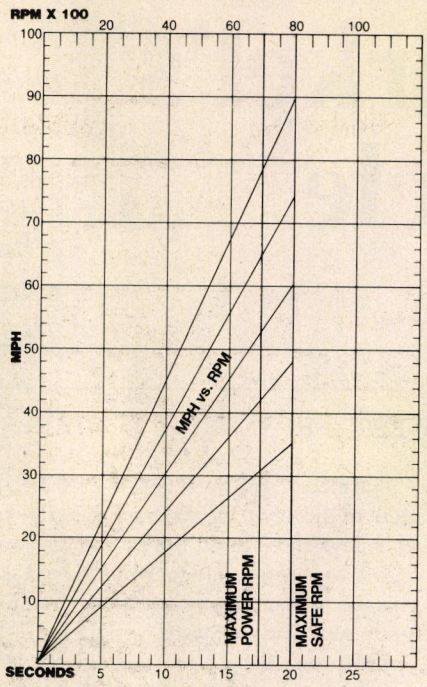
Top speed (calculated)	78 mph (126 kph)

All weights and measurements are taken with machine unladen and fuel tank empty.

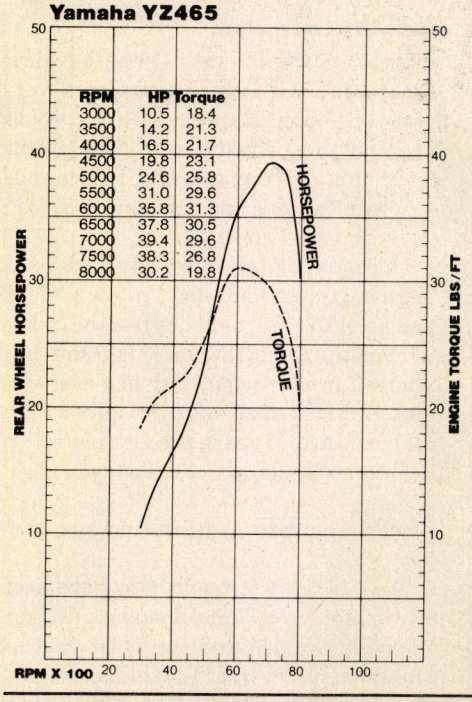
PERFORMANCE:

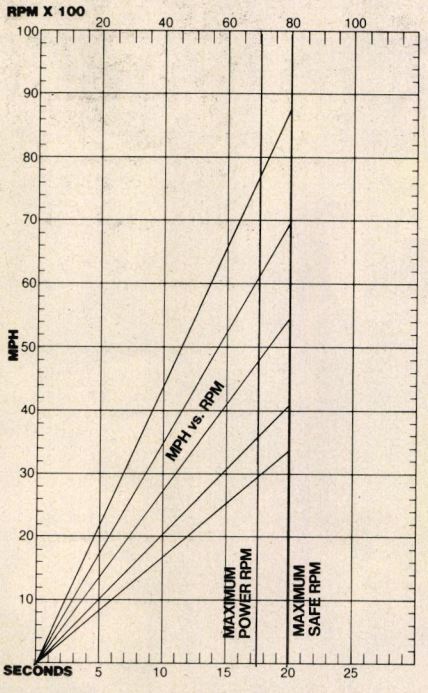
Kawasaki KX420





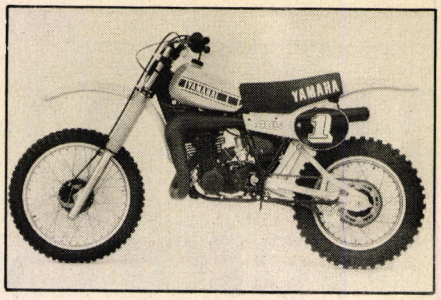
Yamaha YZ465





COMPARATIVE TEST DATA:

Make & Model	Horsepower	Wheel Travel Front/Rear, in.	Weight (fuel tank empty), lb.	Weight bias Front/Rear percent	Transmission, number of speeds
Yamaha YZ465G	39.4	11.2/11.8	228	46.5/53.5	5
Kawasaki KX420	34.0	11.0/11.3	250	46.4/53.6	5
Maico 450M1	37.0	12.3/12.0	236	46.6/53.4	5
Maico 400 M1	35.5	12.3/12.0	233	46.8/53.2	5
Suzuki RM400N	28.1	11.2/11.8	229	46.3/53.7	5
Can-Am MX-6 400	38.3	11.5/10.8	233	45.5/54.5	5



Yamaha YZ465G

SPECIFICATIONS:

IMPORTER: Yamaha Motor Corporation, U.S.
6555 Katella Avenue
Cypress, California

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $1998

ENGINE

Type ..... two-stroke vertical single
Port arrangement ..... one reed-valve-controlled inlet, four main transfers, one booster transfer, one exhaust
Bore and stroke ..... 85.0mm x 82.0mm
Displacement 465.3cc
Compression ratio (corrected) 7.0:1
Carburetion ..... one 38mm Mikuni slide/needle
Air filter ..... two-stage washable foam element
Lubrication ..... pre-mixed fuel and oil
Starting system ..... primary kick
Ignition ..... flywheel-magneto CDI
Charging system ..... none

DRIVETRAIN

Primary drive type ..... helical gears
Primary drive ratio 2.625:1
Clutch ..... wet, multi-plate
Final drive type ..... #520 chain (5/8-in. pitch, ¼-in. width)
Final drive ratio ..... 14/46 : 3.286:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.14	18.47	4.2
II	1.75	15.09	5.2
III	1.32	11.34	6.9
IV	1.05	9.01	8.7
V	0.83	7.18	10.9

SUSPENSION/WHEEL TRAVEL, IN.

Front ..... air-spring, 38mm stanchion tube diameter/11.2 in. (284mm)
Rear ..... 15mm preload adj., 25 position adj. damping/11.8 in. (298mm)

BRAKES

Front ..... drum, double-leading shoe
Rear ..... drum, single-leading shoe, rod-operated

TIRES

Front ..... 3.00x21 Bridgestone Motocross M21
Rear ..... 5.10x18 Bridgestone Motocross M20

DIMENSIONS AND CAPACITIES

Weight ..... 228 lbs. (103kg)
Weight distribution ..... 46.5% front, 53.5% rear
Wheelbase ..... 57.6 to 58.6 in. (146 to 148cm)
Seat height ..... 37.9 in. (962mm)
Handlebar width ..... 33.7 in. (857mm)
Footpeg height ..... 16.5 in. (419mm)
Ground clearance ..... 13.1 in. (333mm), at frame cradle
Steering head angle ..... 30 degrees from vertical
Front wheel trail ..... 5.12 in. (132mm)
Frame ..... tubular chromoly steel, single front downtube
Fuel tank ..... plastic, 2.5 gal. (9.5l), no reserve
Instrumentation ..... none

PERFORMANCE

Top speed (calculated) ..... 87 mph (140 kph)

All weights and measurements are taken with machine unladen and fuel tank empty.

Herk Merkel's Motorcycle Gazette

Astounding tales from the days when wheels were wood and wills were iron. When a man's machine sprang from nothing more than a crosscut saw, a handful of pipe fittings and the junkpile behind the pumphouse.

BY TED WEST RESEARCH: GORDON SCHINDLER

You young Jaspers think you know it all. You think motorcycles have always been demon machines built for the express purpose of turning 12-second quarter miles, running yellow lights and terrorizing law-abiding agricultural communities on the weekends.

Wrong as pastrami ice cream.

The motorcycle wasn't always an instrument of the devil. Fact is, hard as it may be to believe these days, the motorcycle was once meant to be *good* for something. Like plowing fields, putting out fires, climbing mountains, winning wars!

About one decent lifetime ago, people even built their own motorcycles! In those red-blooded days, American Youth didn't just go out and buy some shoddy import from Serbia—or wherever they build these infernal modern machines. No, he went out behind the pumphouse, collected scraps of oak, sheet metal and plumber's pipe, took it all down to the basement, and emerged a week or two later with a motorcycle to be *proud* of.

It took pluck, of course. Gumption. Real American Stick-To-Itiveness. I don't expect you young smart alecks today would know anything about that. You're only interested in drinking catawba, having your way with the girls and going off to Toledo on Saturdays. I know, I know.

Of course, I know better'n to hope you'll learn anything from what I'm going to tell you here. You'll go right down to the Indian dealership tomorrow morning and buy yourself a new Scout, just like everyone else. But look at the pictures anyway. It's all I expected of you in the first place.

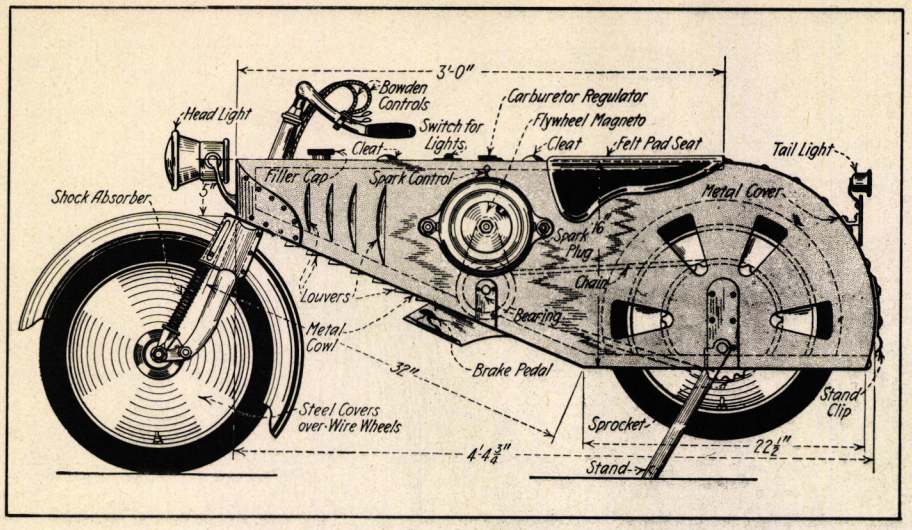
First slide, please.

That's why men climb mountains, they say.

Well, in 1931 it might also have been why *motorcycles* climbed mountains! *Popular Science* featured the brave concept shown on its cover, a "tractor motorcycle" that "goes anywhere." And surely it *would've* gone anywhere, if anyone had had the gumption to build one. Just look at the blamed thing!

But by 1931 Americans had already lost their spunk. A good idea like this one would come along, and Americans only smirked and waited for somebody else to try it out. Like the lean, hardy fellow depicted riding the tractor bike, lean, hardy new ideas had all but disappeared from the scene. By then America was awash in fuzzy-thinking New Deal Democrats, and people who went to "talkies" all the time.

Go on to the next one, Millicent.



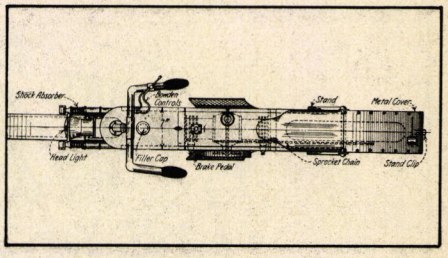
All you needed in 1922 was screwdriver, cross-cut saw, 50 bucks and fear of the Lord, and the Solomobile was yours. Oh, yes—you had to have an old engine lying around too, but in 1922 just about *everyone* had one of those.

Like the plans said, the Solomobile was "simplicity itself." It could be built "by anyone having a home workshop and a half-way decent kit of tools." The secret of the Solomobile was its frame. It was wood.

Not just any wood, mind you, but 1" x 1" *hardwood.* Those boys were real engineers back then.

The Solomobile's frame was then covered with ⅝-inch "whitewood," for strength, beauty and also because there was a sheet of it out behind the pumphouse. There was a piece of sheet metal out there too, so that was used to cover the "rear deck" and "underneath the body and forward end." (I'm not leaving you behind with all these technical terms, I hope.) Louvres on the front of the frame collected air and deflected it to the motor. Dandy.

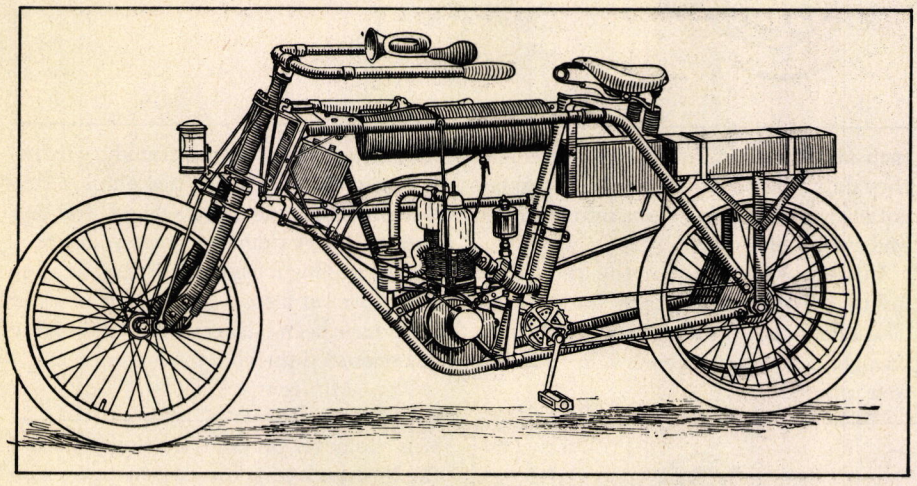
One thing worthy of special mention on the Solomobile was its flat "felt pad seat." I knew a fellow who built one of these machines—followed the plans right down to the last knothole, flat seat and all. It ran great too, but he only rode it once. Said it made his voice kind of screechy afterwards.



But things worked out great for him anyhow. He gave the bike to his wife after that first ride, and she liked it fine. Fact is, she turned into a real avid motorcyclist, as I recall. Never even rode it anywhere—just started up the motor and sat there on it knitting for hour after hour.

But then, you can never figure a woman.

Next slide.



In 1910, *Popular Mechanics* proposed the motorcyclist's answer to outdoor plumbing. Once again, the builder had to supply an old engine—but even in 1910, most people had one or two of them lying around. Or else you could just use an espresso machine, as shown in the illustration.

Otherwise, all you needed was a pipe wrench, a hacksaw and a bankrupt plumbing contractor's business, and this baby was yours. See, it was constructed entirely of ¾-inch and 1-inch pipe!

Don't think this was some half-baked concept, though. No way, René! All the frame joints were engineered to the highest standards. The plan specified that "round iron bar be inserted in the pipes at each bend to make sure of a rigid frame." And instead of flimsy threaded pipe unions, the tees used to join the frame members were reamed out and slipped over the pipe ends, then fastened with pins. Show me a Russian smart enough to think of *that!*

This Pipe Dream was driven by a leather belt, and the belt wheel was to be made of "band iron"—aircraft-spec, of course, from the old aeroplane lying out behind the pumphouse. To give the leather belt a better bite, the belt wheel was to be "peened with a hammer to make a crown." Piece o'cake, if you know what you're doing. But you youngsters don't.

The finished pipe motorcycle weighed in at a svelte 310 pounds. Wheelbase was 70 inches.

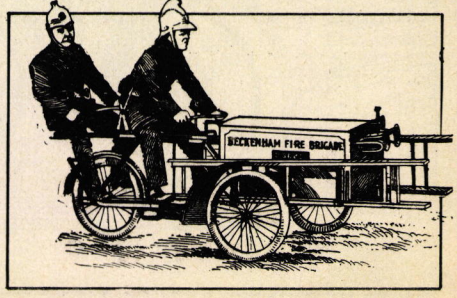
Next slide, Millicent.

From the beginning, motorcycles have been employed in life-saving roles. Here we have one example of the motorcycle as fire-fighter.

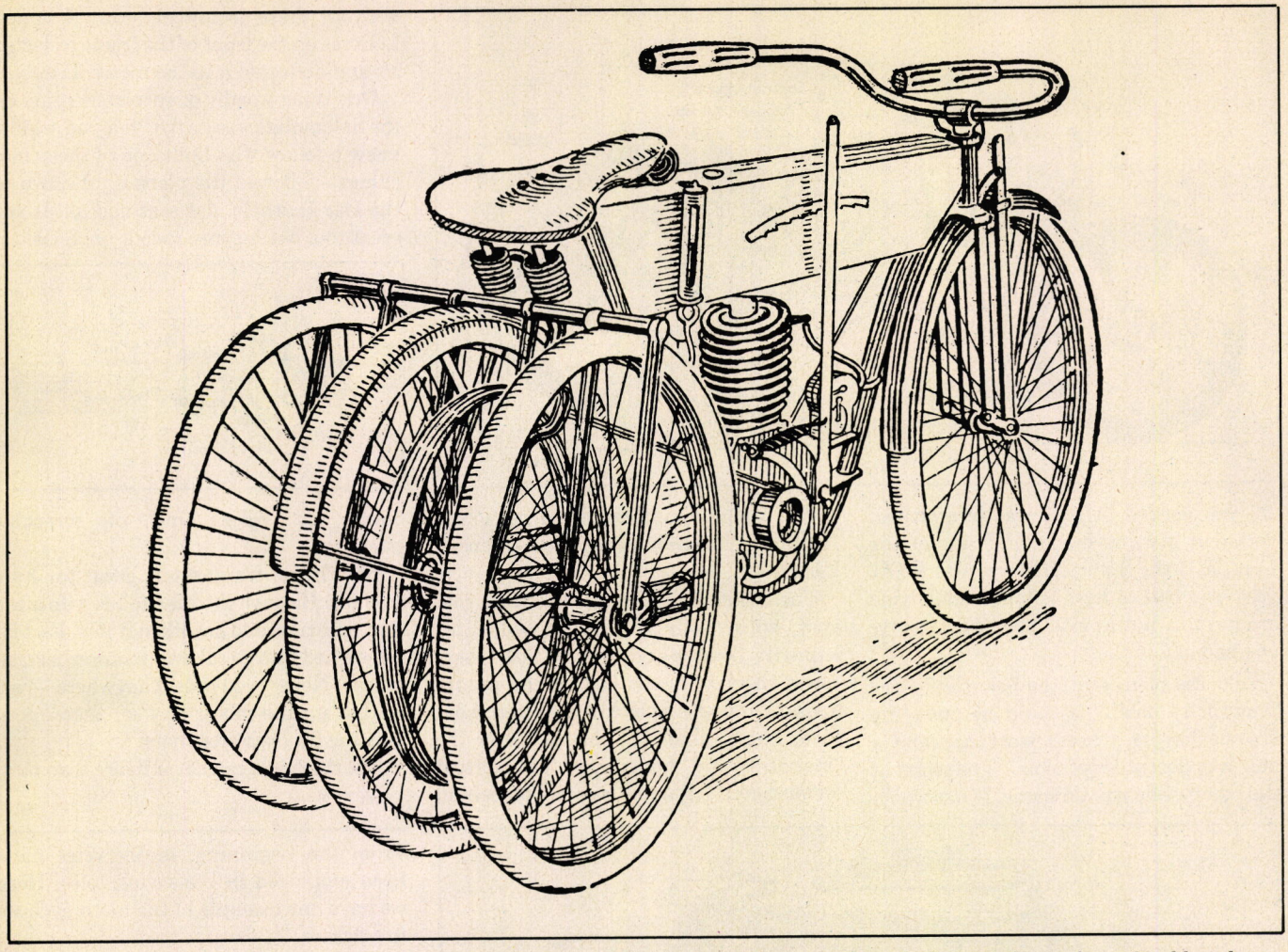
One of the earliest such applications was this 1910 English three-wheeler. Powered by a seven-horsepower twin, it was equipped with light ladders, hoses, and, according to a *Popular Mechanics* report, "other implements which might be useful." These included a tea service for eight, fresh knickers and a change of shoes for the long walk home.

It wasn't until the Thirties, though, that the motorcycle came into its own as the guardian of rural society. *Popular Mechanics* even saw fit to place a fire-fighting bike on its cover (Where *is* that damn slide, Millicent?). Motorcycles, it was almost certain, would become valuable weapons in the never-ending battle against hayrick fires, barn burnings and runaway barbecues.

Okay, Millicent.



Continued

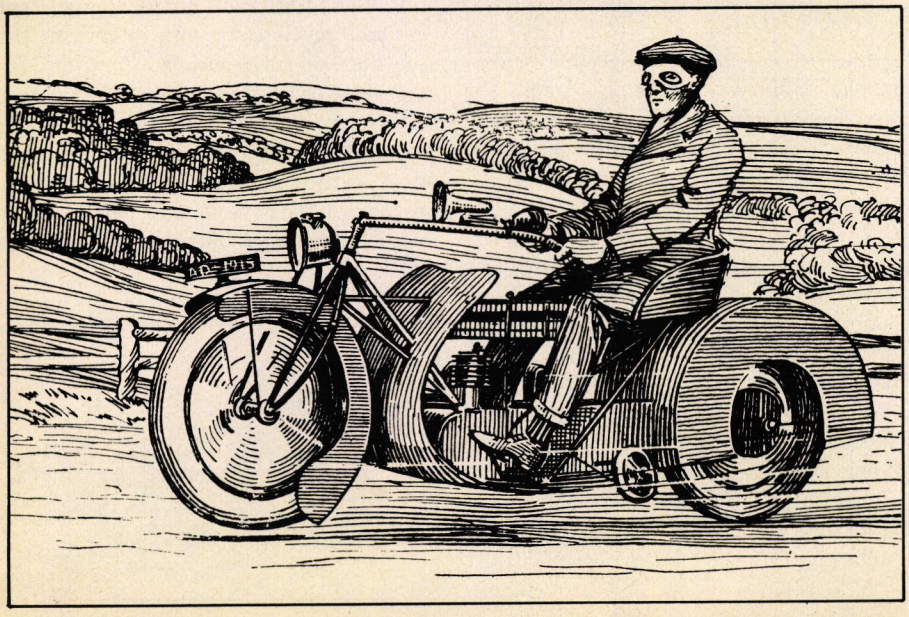


The State of Maine, a major industrial center before the coming of the white man, produced this intrepid 1910 motorcycle. Described by a shilly-shallying magazine editor of the period as "unique, but according to the inventor, very practical," this cycling breakthrough employed two extra rear wheels. They were mounted on either side of the main driving wheel, and one inch above it, so that on level pavement they didn't contact the road. But upon negotiating a curve, they came into dramatic and even useful play.

Little is known about the success or failure of this machine and its inventor. The advantages of the concept are obvious, though, if you think about it for three or four seconds.

In fact, it's beyond me, frankly, why today only children's bicycles employ this very promising idea, in so-called "training wheels." Every time I see some young heathen struggling to right his Harley 74 after it falls over at a stoplight, I think of what *could* have been—if only Industrial Maine had remained the vital force it once was.

Okay, Millicent.



This one never got built, thank you Lord. I like to show it to you young snappers who think you know it all. This snow-sled on wheels was drawn up by some smart-aleky kid who, like most of you lazy pups, didn't use the good sense He gave you.

Popular Mechanics ran the drawing in 1911 'cause they thought it was supposed to be comin' down the road of the future. Only problem was that the road needed widening about a mile so you could turn this two-wheeled rhinoceros in less than two counties. I like to think that the young Mr. Rembrandt didn't grasp the laws of motorcycle nature when he drew the front wheel only an inch or two off the ground. More like a foot or two I reckon. No wonder he put that big bulb horn right next to the rider's hands.

Next slide.

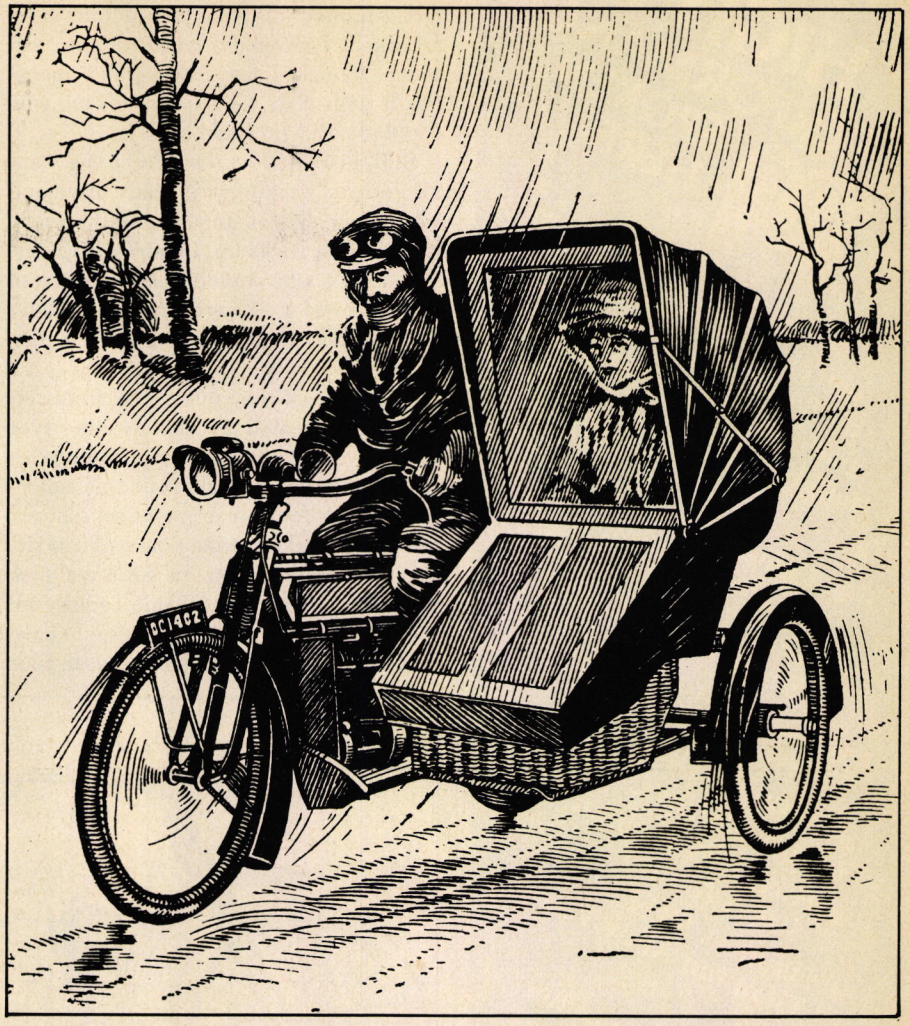
In the golden year of 1910 the English, authors of the trend-setting *H.M.S. Titanic,* were also in the forefront of motorcycle innovation. Their influence lasted only another 50 or 60 years, but still, their contributions are worthy of some small mention—among these being the "weather-protected" side car.

A contemporary American report began, "In Europe, where people are less afraid of attracting public attention than in this country, the motorcycle with a third-wheel attachment for the accommodation of a passenger is rapidly growing in favor for people who cannot afford the more costly automobile."

Well, maybe the writer thought he knew what he was talking about.

But he didn't. The truth is, this invention was an attempt at countering the general social unacceptability of motorcycles in England. While a passenger could indeed be carried, volunteers were few, and the machine, in fact, sold mainly to lonely English bachelors. For this reason, a wide variety of etched-glass windshields was made available, depicting the woman of the rider's choice. Windshields were quickly and easily interchangeable, leaving the impression that the rider "really got around." And the true identity of the groceries inside was discreetly concealed from prying eyes.

Next slide.



In 1917 a mechanic, "working in his spare time, with only the facilities of a small machine shop," built this handsome, steam-powered greyhound of the open road. The engine was mounted horizontally behind a boiler 16 inches in diameter and 12 inches high. Gasoline for heating the boiler was contained in the long tank beneath the seat. Water was stored in a square tank beneath the frame.

The Steam Bike's wheelbase was a generous 75 inches, but the canny inventor, recognizing a potential problem, wisely mounted the seat on a movable clamp. That way, it could be adjusted forward or backward on the backbone of the frame, suiting the rider's reach. A second seat even could be installed for a passenger. And there is no doubt that the Steam Bike would support the extra weight. Its frame was fabricated of 1-inch steel tubing throughout, and "strongly riveted at the fork and other joints."

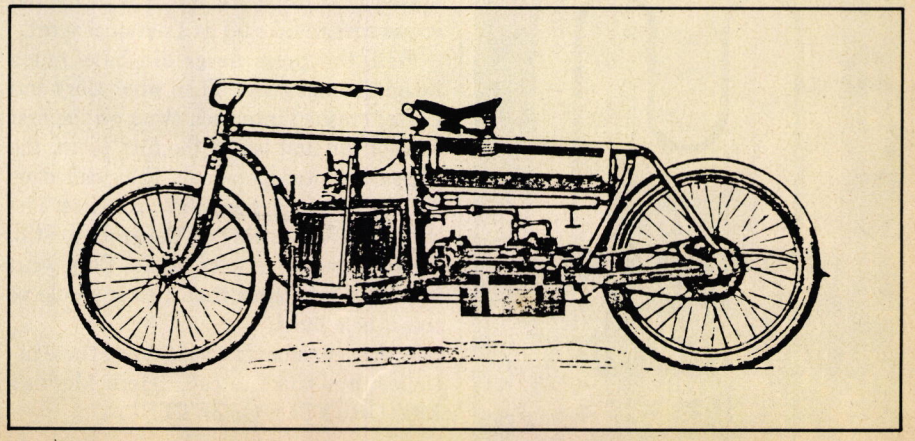
In riding tests, the 350-pound machine shined. A writer of the time reported, "Tests and hard usage over typical roads have shown it to be easy riding, partly by reason of its weight, and to give very steady power. The machine can be reversed quickly and no clutch is used."

No clutch and, I might add, no brakes.

In fact, the lack of clutch and brakes had fateful consequences. On the first test ride in Dayton, Ohio one spring morning the inventor—Fosdick was the name, I believe—had accidentally neglected to tighten the seat clamp. And having a good head of steam up for the maiden voyage, the bike's acceleration was so brisk that the seat slid to the rear fork in the first 10 feet. From there, Fosdick couldn't reach the control valve. Indeed, he was lucky to reach the handlebar.

Well, there was great excitement in town that day. And by nightfall, the bike had crossed the Indiana state line, where it finally ran out of water and came to a halt. Surprised and pleased to find that Indiana people were friendly and spoke English too—Fosdick's native tongue—he decided then and there to stay put. He remained in Richmond, Indiana for the rest of his life, unaware that a simple letter to his wife in Dayton, across the border, could have informed her of his whereabouts during all those long, peaceful years.

Millicent?



Continued

HIGH PERFORMANCE SPOKEN HERE

But at M&M RACING we don't just talk performance, we build it into every bike and engine that comes through our fully equipped machine shop.

- Cylinder Porting & Flow Testing
- Amal & Mikuni Smoothbore Carbs
- Swing Arms
- Wheely Bars
- Ignition Units
- Street/Strip Cams
- Forged Pistons for Street & Strip
- Stainless Steel & Titanium Alloy Valves

With 13 IDBA National Records, we have proven our commitment to High Performance. Make your commitment with M&M RACING, quality parts and complete motor building service. Call or write for illustrated catalog. $3

M&M RACING
624 EAST MARKET
LOUISVILLE, KENTUCKY
40202
(502) 584-2173

OK. Aluminum is what this motorcycle is all about. I never did go in for the stuff much, though. I mean, you could almost cut it with your teeth. And anyone who could plow a field could bend it.

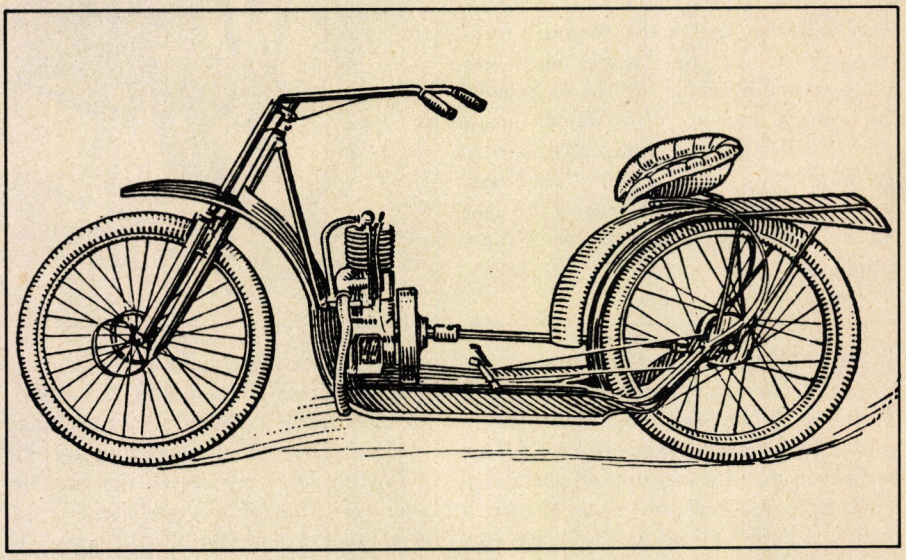
Still, in 1911, *Popular Mechanics* went all gushy on this one. A shaft drive and worm gear and all that aluminum really turned their wicks up. I knew a magazine fellow once who couldn't bend a piece of aluminum with a fairy godmother. I don't suppose any of you Jaspers could either, though.

Well, at least they put a steel frame on this bucket-seated wonder. No one ever had to walk home for making motorcycles out of steel. The magazine said this motorcycle had its four-horse engine set athwart the frame. And since the rider was also sitting athwart the frame, he got a real nice ring-side view of the mechanical goings on.

On cold days it was kind of nice to have that warm engine right there between your feet, but there were problems. More than one Toledo-bound romancer spent Sunday and part of Monday hobbling around when his toes learned a new dance step from the exposed flywheel and driveshaft. Today the boys in Washington wouldn't want you know-it-alls to learn that lesson. They'd make you cover everything up with more of your fancy aluminum.

There was a guy down in Dayton who used that very same exposed drive shaft to get himself pretty rich. Seems that for two dollars he'd sell you some plans to make that shaft do the work of six machines at once. With a few belts, pads and other things you had stuffed in the kitchen drawer, you could ride down the pike, shine your shoes, peel, core and press a bushel of apples and sharpen all the scissors and knives in the county—all at the same time. Let's see you hot rods do that on one of your more modern machines.

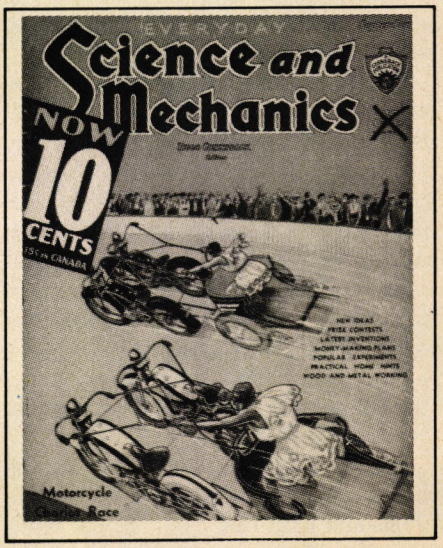
Last slide, Millicent.



This concept I, Herk Merkle, was personally involved in. There were three of us originally, Lester Mudd, Cory Knievel and myself. We formed the North American Cycle-Chariot League, with exclusive rights in Rhode Island, Wyoming and Tennessee. Cost us plenty, too. But we figured it was sure to take off as a national sport.

Well, the press never did have much imagination, I guess. Then when Cory and Lester crashed into each other on the first turn of the first lap of the first event, the papers got real personal. They called us "idiots." It was a cheap shot, of course. The thing was just getting off the ground. Still, we knew when we were licked. Cory went into used cars after that. Lester would've too, if he'd lived.

And ever since, I've been doing these little lectures I like to call, "Herk Merkle's MOTORCYCLE GAZETTE. . . ."



You can turn on the light now, Millie—I think they've left now. •

LIKE MOST REVOLUTIONS, YAMAHA'S NEWEST MOTORCYCLE STARTED WITH A LIST OF UNREASONABLE DEMANDS.

ENGINEERING MEMO:

DATE: 1-12-79 RECEIVED JAN 15 1979 FILE NO: 1642-8

Subject: New MODEL (04M) PRIORITY

1. Fastest in class w/best power-to-weight ratio
2. Lightest 4-stroke street bike w/shaft drive
3. Lowest seat height in class!! 29.5in. max.
4. Narrowest in-line-four possible (mount AC generator on upper crankcase and incorporate compact middle gear case)
5. Styling direction more fluid/yet complement engineering
6. New chassis design (for low seat height, low weight, max handling-min vibration engine mounts)
7. Lighter, more compliant cast alloy wheels
8. Deep banking angle 47° min.
9. Ultra-reliable electric start
10. Built-in anti-theft system

When we outlined our idea for the perfect American street motorcycle, our engineers shook their heads. A few began to pace nervously.

They said it would require an engineering revolution. They said it couldn't be done.

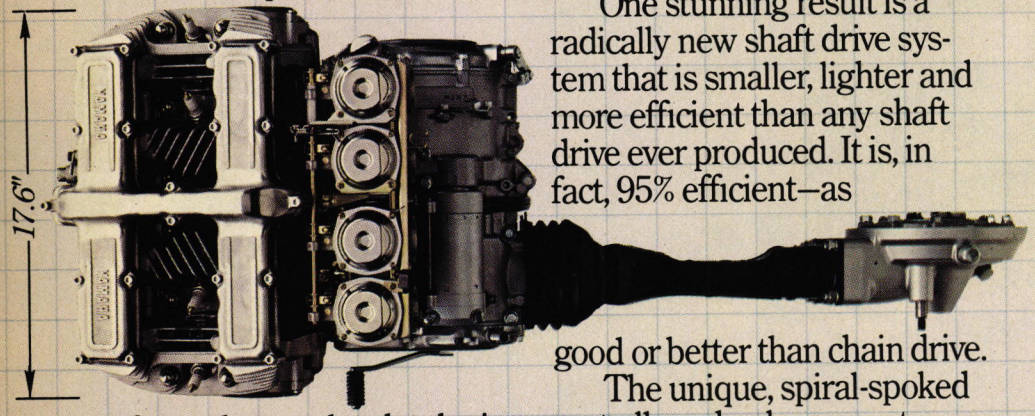
But it could. And they did it. In fact, they met or exceeded every engineering goal. But that's nothing new for Yamaha.

LOW AND NARROW.

Our renaissance of motorcycle technology began with the premise that a superbike need not be big to be super.

With a totally redesigned double-cradle frame configuration we created a motorcycle with the lowest seat height in its class: only 29.5 inches. The low seat position means greater stability when riding and a confident, feet-on-the-ground feeling when stopped.

To make our new 650cc powerplant the narrowest in-line-four now produced, we



performed several technological feats. Like mounting the AC generator on the crankcase behind the cylinders and neatly incorporating the middle gear case into the transmission housing.

Incredibly, we built a 650 four that is only 17.6 inches at its widest—narrower, even, than our 650 twin.

LEAN AND MEAN.

One of our biggest challenges was making the engine not only extremely narrow, but powerful enough to out-perform anything in its class.

And we did it, using design features like double overhead cams to control the feeding of four smooth-pumping pistons. A strong, one-piece crankshaft that can withstand tremendous torque. Transistor-controlled ignition to provide a hot, efficient spark under all performance demands. And four Hitachi constant-velocity carburetors for instant, confident power response.

INNOVATION, IN A SMALL WEIGH.

Realizing how important weight would be to handling and performance, we designed every component of our new motorcycle to be as small and elegantly efficient as possible. Only the lightest, strongest, most advanced materials were used.

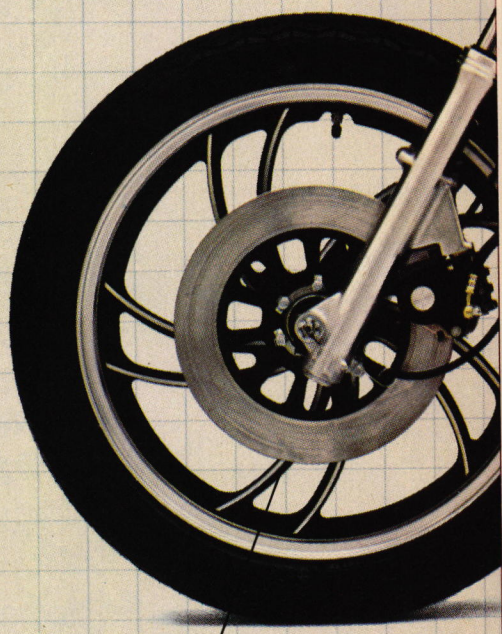
One stunning result is a radically new shaft drive system that is smaller, lighter and more efficient than any shaft drive ever produced. It is, in fact, 95% efficient—as good or better than chain drive.

The unique, spiral-spoked cast-alloy wheels are as strong as conventional cast-alloy wheels, but with less weight and more compliance for even better handling.

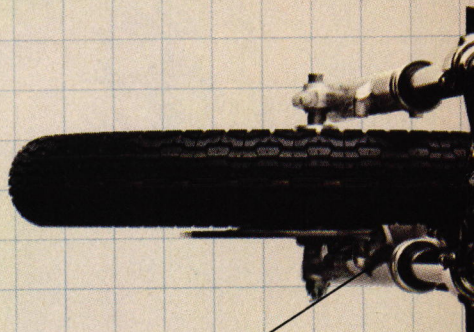
But the crowning achievement of our low-weight, high-performance requirement is the fact that the entire motorcycle weighs only 447 pounds. Even with the shaft drive and electric start.

And, to help keep our new bundle of leading-edge technology from going anywhere without you, we've added one more innovation: a convenient built-in wheel-locking device.

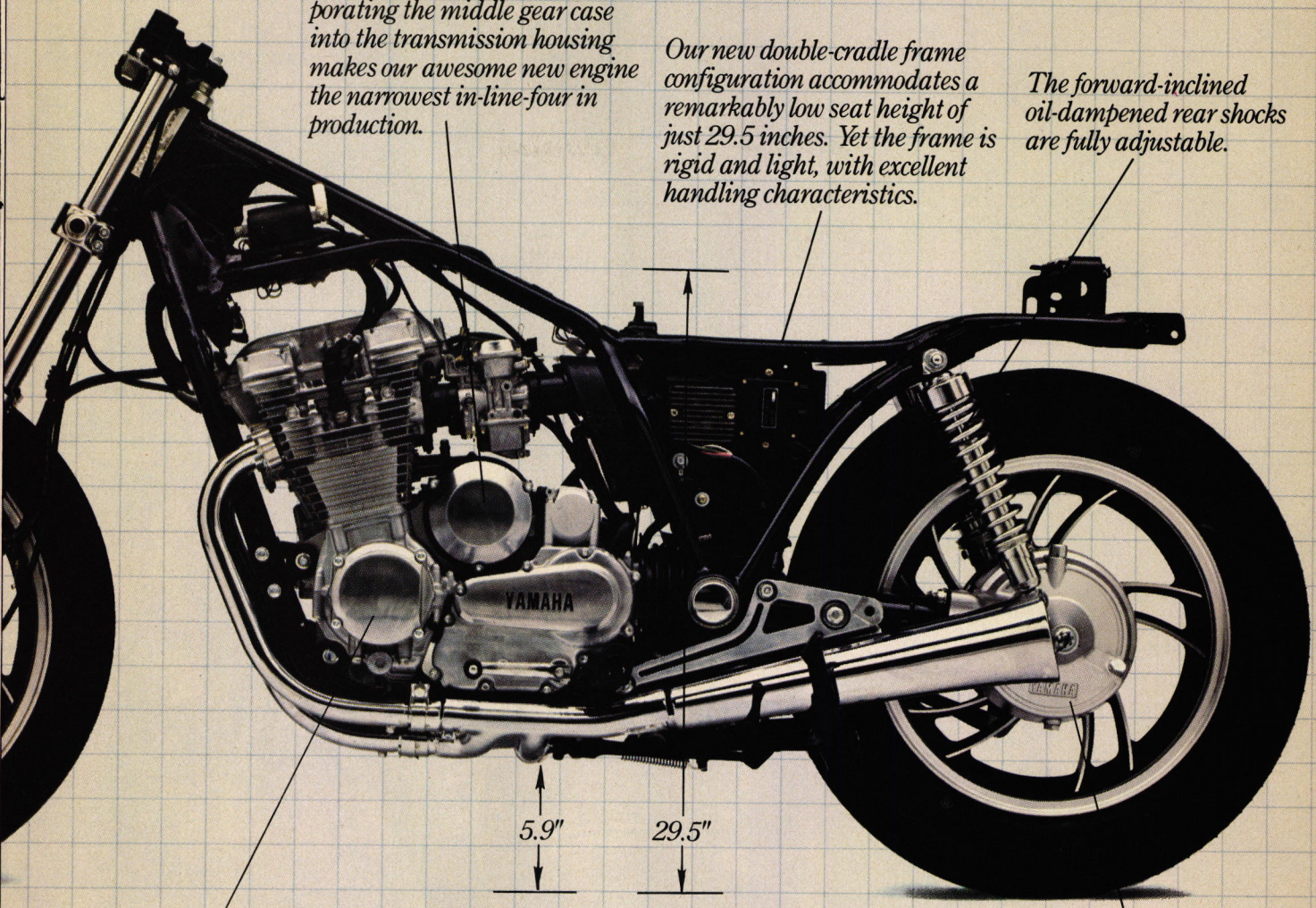
Then, as you'll see on the next page, we put it all together...



The unique, spiraled cast-alloy wheels not only look fast, they're lighter than conventional cast-alloy wheels. And strike a perfect balance between strength and compliance.



The air/spring front forks with leading axle have a full 150mm of travel.



Mounting the AC generator behind the cylinders and incorporating the middle gear case into the transmission housing makes our awesome new engine the narrowest in-line-four in production.

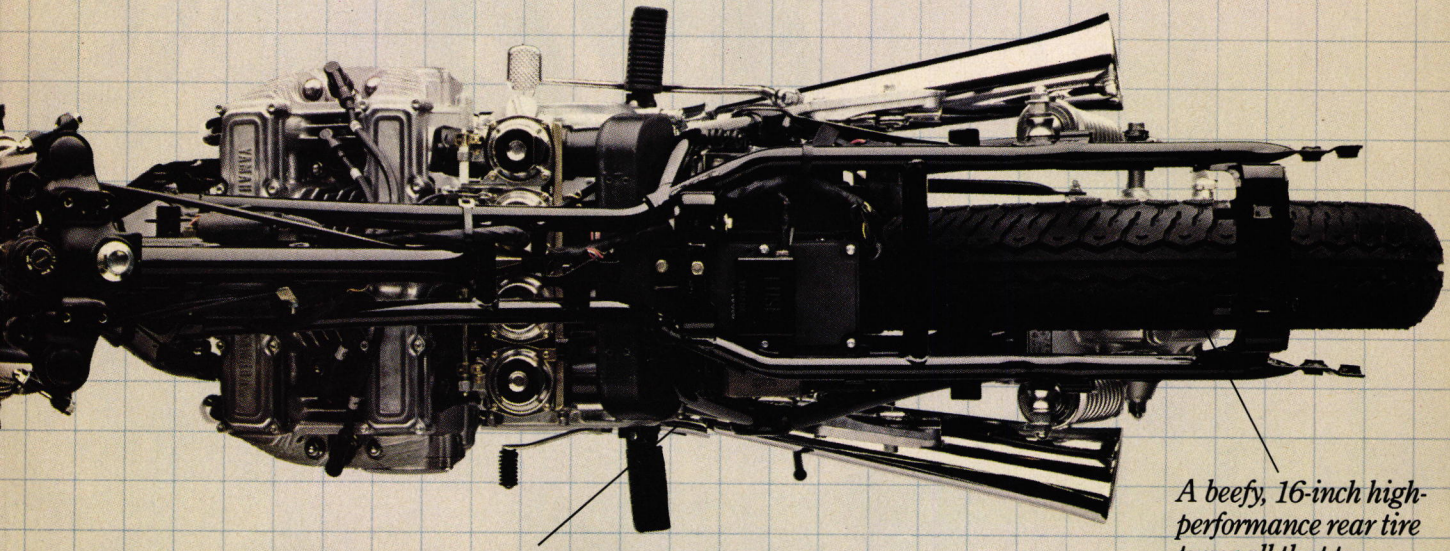
Our new double-cradle frame configuration accommodates a remarkably low seat height of just 29.5 inches. Yet the frame is rigid and light, with excellent handling characteristics.

The forward-inclined oil-dampened rear shocks are fully adjustable.

The extremely narrow, light DOHC in-line-four 650 is, pound-for-pound and inch-for-inch, the most powerful engine we've ever unleashed.

Despite an ultra-low seat height there's ample ground clearance.

The light, compact shaft drive transmits power to the rear wheel with efficiency that is equal to or better than a chain's. Without the maintenance problems.



Built-in wheel-locking device.

A beefy, 16-inch high-performance rear tire turns all that torque into traction.

INTRODUCING THE MAXIM I.

When our list of unreasonable demands became a list of technological innovations, the result was not just a new motorcycle. But a machine that performed so incredibly and looked so extraordinary, it revolutionized the way we think about motorcycles.

And the way we name them. It's so much more than simply another "650."

So we call it the Maxim I.

NEW PERFORMANCE STANDARD.

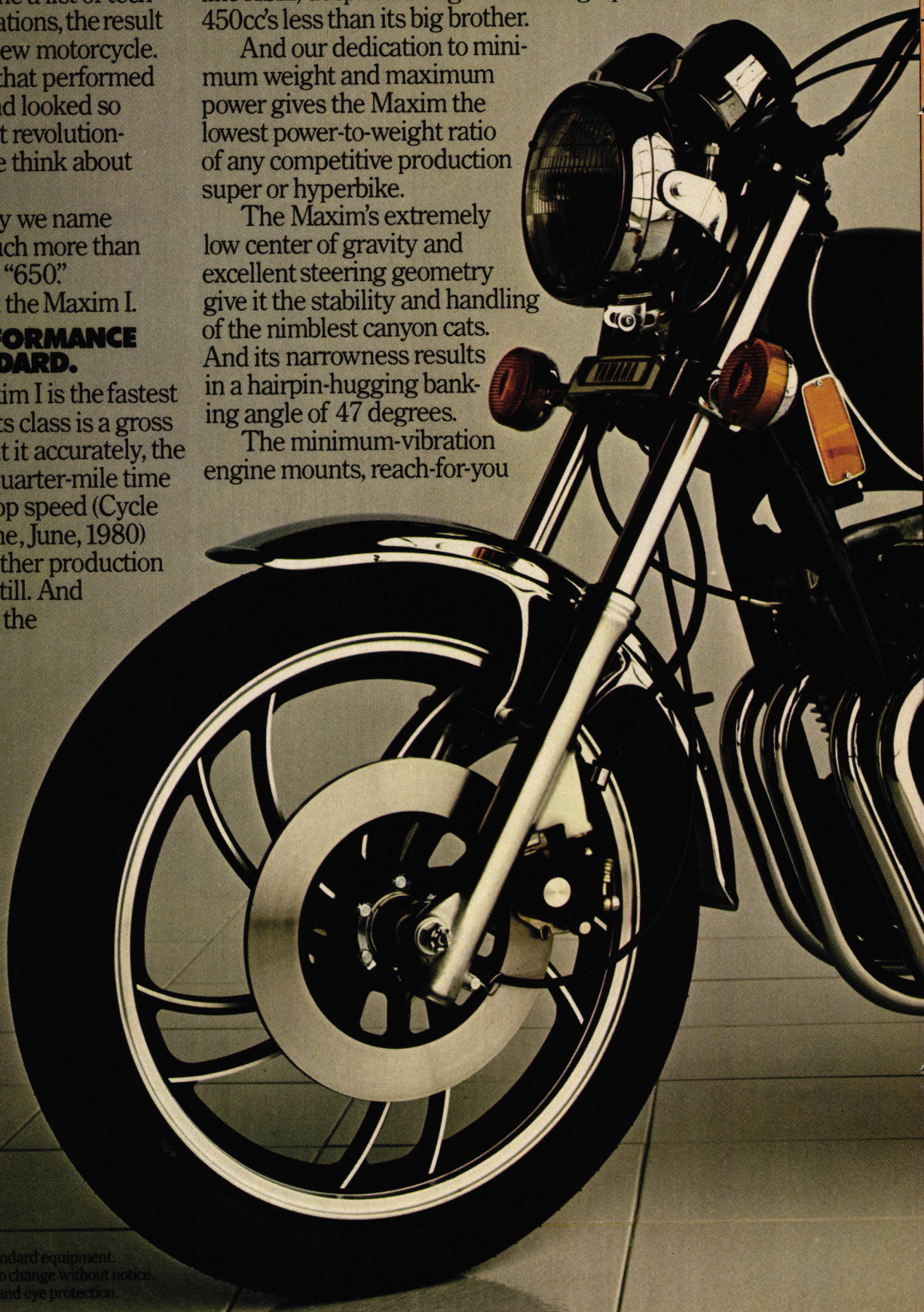
To say the Maxim I is the fastest motorcycle in its class is a gross injustice. To put it accurately, the Maxim's 12.6 quarter-mile time and 125 mph top speed (Cycle Guide Magazine, June, 1980) will leave any other production 650 standing still. And challenge even the hottest 750's.

In fact, the Maxim is only five percent slower in the quarter mile than our lightning-like XS11, despite having 450cc's less than its big brother.

And our dedication to minimum weight and maximum power gives the Maxim the lowest power-to-weight ratio of any competitive production super or hyperbike.

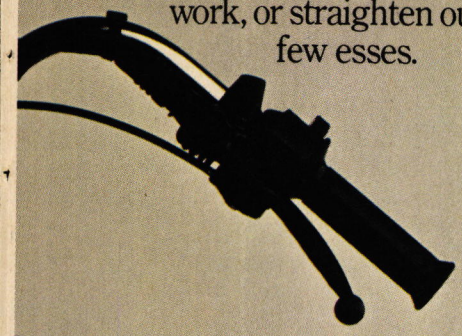
The Maxim's extremely low center of gravity and excellent steering geometry give it the stability and handling of the nimblest canyon cats. And its narrowness results in a hairpin-hugging banking angle of 47 degrees.

The minimum-vibration engine mounts, reach-for-you pull-back handlebars and luxurious stepped seat make the Maxim the most comfortable high-performance motorcycle



Rear view mirror(s) standard equipment.
Specifications subject to change without notice.
Always wear a helmet and eye protection.

you can ride. Whether you want to sail the open highway, beat the other commuters to work, or straighten out a few esses.



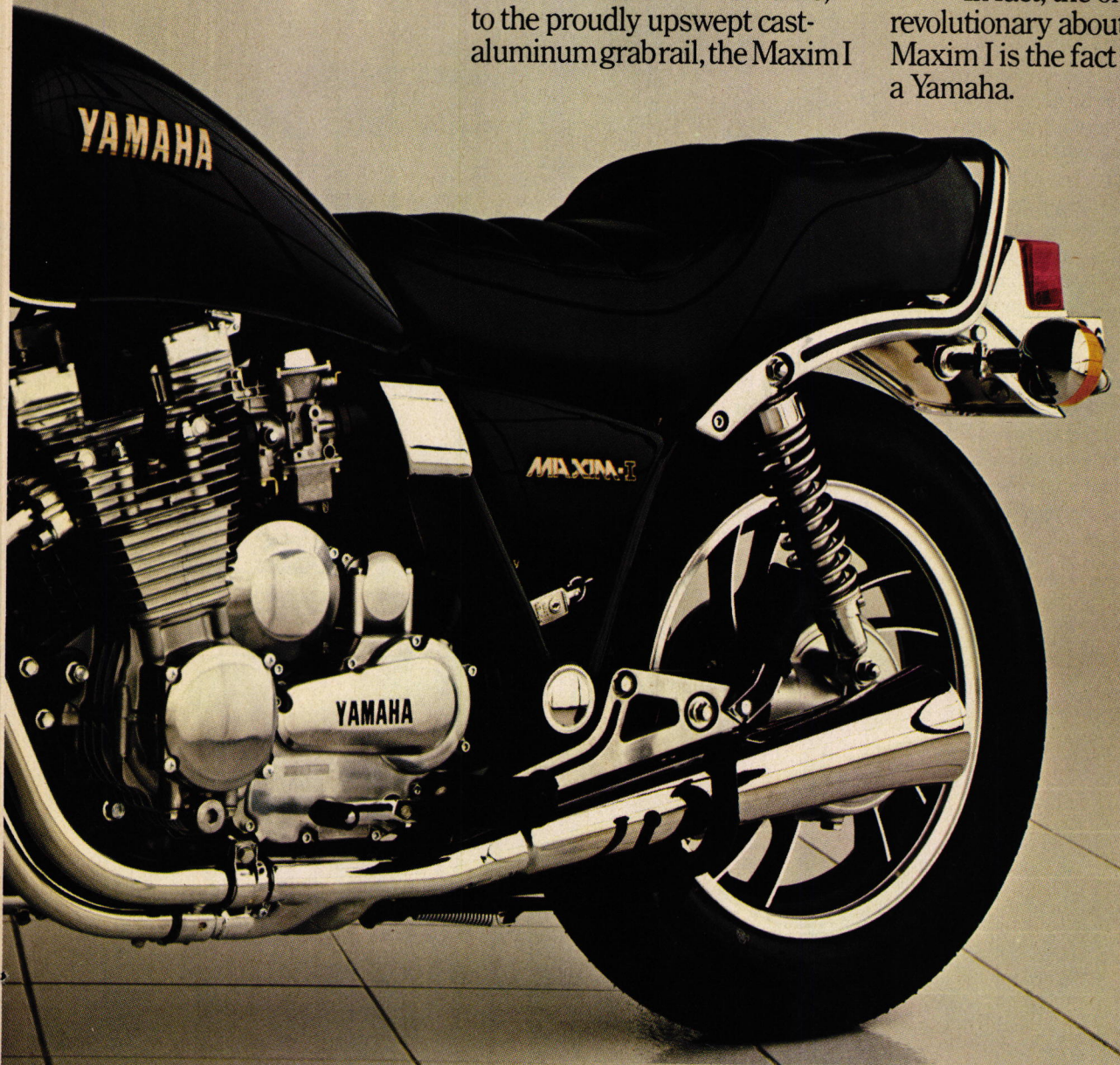
NEW STYLING STANDARD.

The Maxim I is not only our definitive statement on street bike engineering, it's also the most beautiful motorcycle we've ever produced. Yet not a single engineering feature was compromised to accommodate styling.

From the spiral cast-alloy wheels to the sleekly integrated down lines of tank and frame, to the proudly upswept cast-aluminum grab rail, the Maxim I is a perfect example of form following function. In two eye-popping, one-of-a-kind colors: New Yamaha Black and New Ruby Red.

The new Maxim I. It's hard to believe one motorcycle could be the fastest, lightest, lowest and most beautiful. But, at Yamaha we built our reputation on challenges like these.

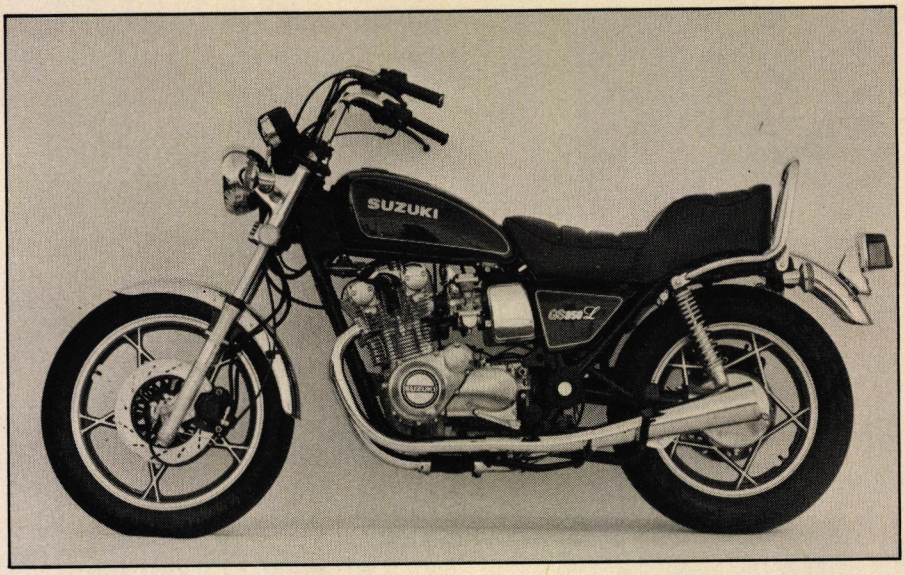
In fact, the only thing not revolutionary about the new Maxim I is the fact that it's a Yamaha.



THE MAXIM I FROM YAMAHA.

Suzuki GS850L

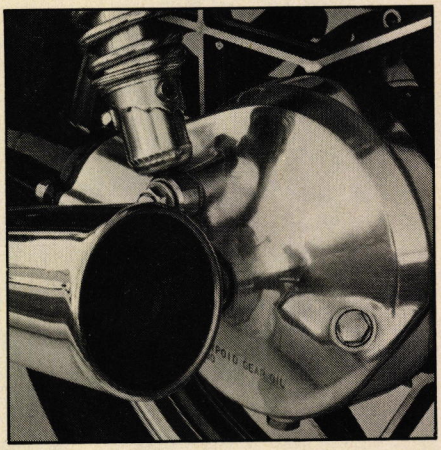
Cruising for distance with shaft drive.



• The transformation of the GS850 shaftie into a streetfighting L-type didn't produce a bold new approach to American styling, but it did result in the most comfortable L-model in Suzuki's line-up. The modest vibration level of the eight-valve 850 engine, adjustable suspension fore and aft, and a saddle that doesn't sacrifice padding for a low seat height help the 850L come far closer to hitting the target as a street cruiser than any other L-model.

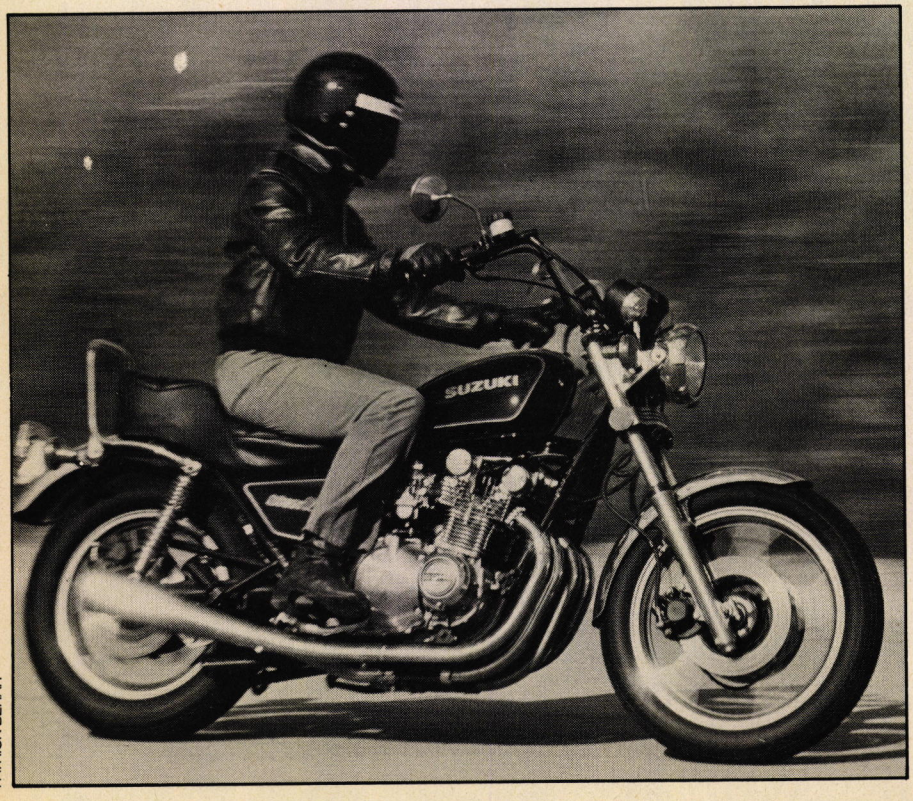
Last year, the 850's friendliness was seriously compromised by an engine with extraordinary problems under cold-start conditions. Only the GS425 engine required more warm-up time, and you felt lucky to ride the 850 away with the choke still on after a full five minutes. Suzuki's switch to constant-velocity carbs for its street bikes thankfully eliminates most of the 850 motor's aggravating idiosyncrasies, for the engine responds to the throttle without strangling after just two minutes.

With many emissions problems solved by the adoption of CV carbs and set-it-and-forget-it transistorized ignition, Suzuki engineers decided to coax more power from the 850. To this end, the nominal venturi size of the carburetors has been increased, the inlet ports enlarged and the cam timing for the inlet valves advanced 10 degrees (duration and lift remain the same). Exhaust tuning helps too, by way of a prechamber connecting the No. 2 and No. 3 headers beneath the engine. Together these changes increase horsepower

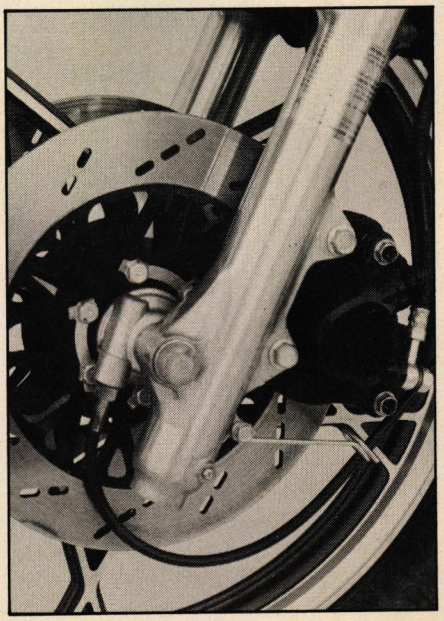


Big blaster with shaft drive

Even shafties can be speedy.



PATRICK BEHAR



Slots for the discs

Opting for form rather than function.

five percent and provide 10 percent more torque, both at the same rpm as before. As a result, the 850L hustles to the quarter-mile marker in 12.67 seconds at 106.7 mph, faster than both Yamaha's XS850 Special and Honda's CB750K. The only drawback is abrupt throttle response off of idle, revealing some drivetrain lash in Suzuki's nearly faultless shaft drive.

When Suzuki decided to fiddle with the 850 for 1980, it didn't stop with just horsepower. The alternator's capacity has increased 17 percent to 230 watts, providing the 850 in both standard and L configurations with enough charging capacity to cope with more touring accessories, not to mention the halogen headlight that both models receive this year. In addition, a more rigid caliper design helps foster smoother brake action.

SUZUKI GS850GLT

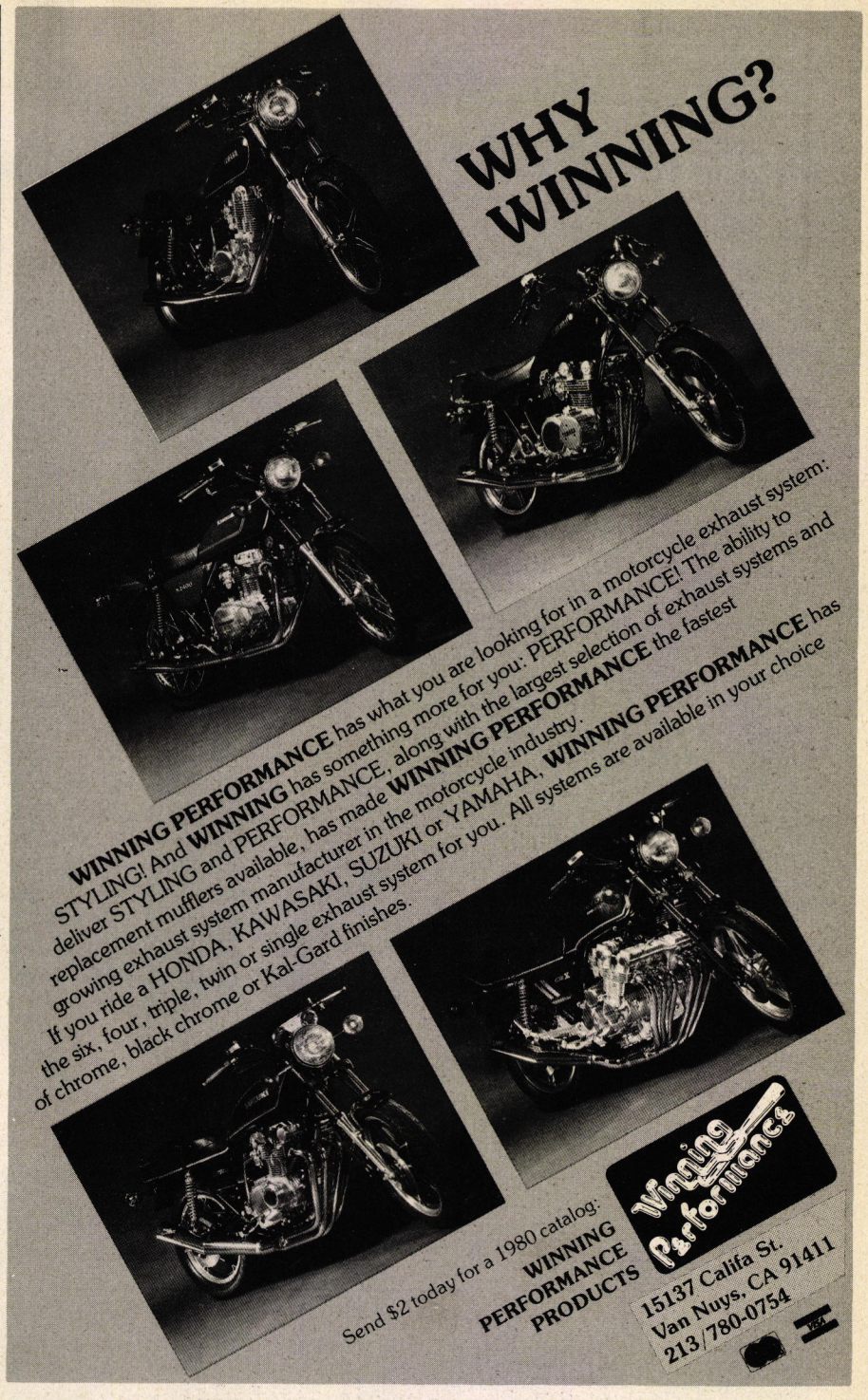
Importer: U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

Category	street
Suggested retail price:	$3199
Engine type	four-stroke transverse vertical four
Valve arrangement	double overhead cams
Bore and stroke	69.0mm x 56.4mm
Displacement	843cc
Carburetion	four 32mm Mikuni constant-velocity
Gearbox	5-speed
Final drive ratio	3.09:1
Front fork/wheel travel	air-spring, 37mm stanchion tube diameter/5.5 in. (140mm)
Rear shocks/wheel travel	4-way adj. rebound damping, 5-way adj. spring preload/3.5 in. (90mm)
Wheelbase	60.8 in. (154.4cm)
Seat height	31.3 in. (795mm)
Weight	546 lbs. (248kg)
Best ¼-mile acceleration	12.67 sec., 106.7 mph (171.6 kph)
Fuel consumption	38 to 46 mpg (16.2 to 19.6 km/l)

Suzuki's styling hasn't worn very well in the year since the L-models were released. Yet even though the 850 looks out of proportion, what with styling geegaws like the plastic cover that conceals the swingarm pivot, there's nothing out of balance about the way the bike performs. A snarl might curl from the megaphone pipes, but the 850 engine cruises as effortlessly as a 1000, and the CV carbs give it added punch in top gear roll-ons. The shaft drive transmits power with little of the rear-end gyrations and driveline jerkiness found in other shaft systems. And the soft suspension fore and aft works with the well-padded seat to smother the bumps whether you're headed across the street or across the state line.

When you come right down to it, the 850L succeeds for the same reason that the other big Suzukis do—no matter what it looks like, its sense of balanced performance can't be confused with any other bike.

—Michael Jordan



PRODUCT EVALUATION:

Safari SLR Modular Camera Case

It's not just for cameras.

• The temptation here is to poke fun at something that's funny looking. After all, you've done it all your life, right? The Safari SLR Modular Camera Case *is* funny looking, and makes for lots of jokes about oversized cameras. But the Safari also set the motorcycle-as-pack-animal side of our brains into full-stuff mode. You see, this is not just a camera case. The permutations and combinations of case configuration versus contents are staggering.

The Safari SLR Modular system works like this: You have a foam-lined body case, a lens case (also foam-lined) and extension tubes. All pieces are threaded so they can be attached to each other. The body case and lens case have eyelets for snap hooks, and are supplied with snap hooks attached to belt loops. The basic system is a body case with a lens case screwed on. Each extension tube you screw between the body case and the lens case increases the length (inside) by 2⅜ inches. Measurements for the body case are 6½ inches wide, 4½ inches tall and 2½ inches deep.

The components of the Safari are about right for motorcycle needs. High-impact plastic, foam lining, water-tightness and a multitude of places for hooks and straps all are consistent with present technology. The modular design makes sense, too. The less you have to carry on a motorcycle the better, and if you only want to carry a small camera, why carry a big case?

So what can you put in a case that looks like a mummified, overgrown, carved-out-of-a-large-bar-of-soap camera? How about a can of Tab, a salami, a swiss cheese and alfalfa sprout sandwich with a navel orange for dessert? How about a transistor radio and a can of chain lube? Money, wallets, sunglasses, a swimming suit and last night's poker winnings are all fodder for the insatiable Safari. You might even want to stuff a camera in it if you're radical. A small, 110-size camera or a 35mm single lens reflex will fit nicely—even with a 300mm lens attached.

Once you decide what you're going to carry in the Safari, and what configuration it will take, you still have some options about how you're going to attach the case to you or the bike. Naturally, you can bungie it. You can carry it over your shoulder, around the neck, around the waist—holster style from the belt. Or, you can separate the pieces with the lens case attached to the belt, the rest around your neck or bungied.

Are there any drawbacks? Certainly. Anything modular in design most likely won't work extremely well at anything—only sort of well at a lot of things. I think this could be an advantage to a motorcyclist who occasionally photographs. Also, the Safari is funny looking. In today's style-conscious polyester world, you might want people looking the other way when you get off your two-wheeled custom and strap an oversize camera glove on your belt.

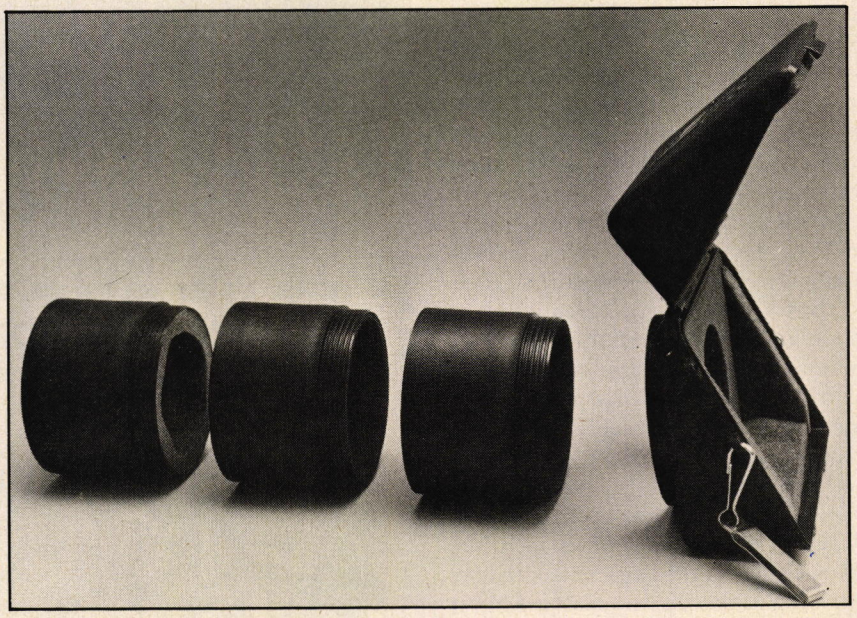
If you think you can live with the ridicule you'll get from owning a Safari, or if you think the benefits outweigh the jokes about your big camera, you can buy the pieces of a Safari SLR Modular case system for $18.95 for the body case, $10.95 for the lens case and $5.95 for each extension tube. Or you can buy the long lens package—a body case, a lens case and two extension tubes for $39.95. That will accommodate a lens up to 7¾ inches in length. You should be able to find them at camera stores, or you can write or call Safari Camera Case, Inc., Dept. CG, P.O. Box 19972, Houston, Texas 77024. The phone number is (800) 231-1753. But don't say we didn't warn you. —*David Clark*

Lo-cal configuration

The world's first modular lunchbox.

Quick draw, Safari style

Just add chaps and spurs.



Lens case, extension tubes and body case; the Safari exploded

Screw it all together for easy-access camera protection.

WHEN IT'S A QUESTION ON MOTORCYCLE SUSPENSION S&W HAS THE ANSWERS.

At S&W we know a lot about motorcycle suspension because we put our faith in engineering expertise, not dumb luck. This engineering approach to development has enabled us to assemble the most sophisticated and complete line of motorcycle suspension products in the world. A good example is our new AT-21 Mark III Air Shock for the Kawasaki KZ1300. We spent over two years developing and refining these shocks to reach a point where now you can bolt on the most adjustable suspension system ever available.

We have also developed a revolutionary new push button adjustment suspension system called Air Command. A touch of a button changes your suspension's air pressure for a more comfortable and controllable ride.

The AT-21 Mark III Air Shocks are available in chrome ($179.95) and in black ($159.95) (complete with handlebar mounted pressure gauge).

To insure a proper fit and other applications check with your local S&W suspension expert.

S&W ENGINEERED PRODUCTS

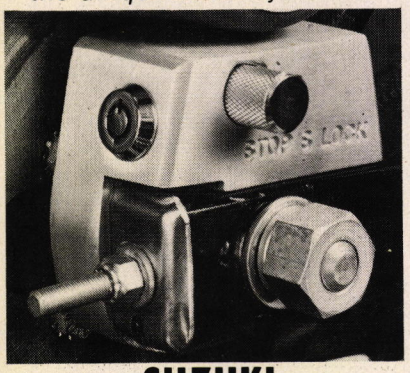
All prices are retail and subject to change without notification.

S&W ENGINEERED PRODUCTS 2617 W. WOODLAND DRIVE ANAHEIM, CA 92801 U.S.A. (714) 527-1641

We make sure your cycle **remains** your cycle

STOP & LOCK

the unique motorcycle lock



SUZUKI
All GS series
All years

* Simply replaces your stock **rear** wheel spacer
* No modifications necessary
* Only 20 seconds to lock or unlock
* Securely locks rear wheel
* Only a small pin or key to carry while riding
* Eliminates need for bulky chains or cables
* The only lock that becomes a permanent part of your cycle

Now available for:

Harley	$47.00
Honda	55.00
Suzuki	55.00
Yamaha	55.00
Kawasaki	55.00
BMW	60.00

STOP & LOCK CO.
411 Tamal Plaza
Corte Madera, CA 94925
(415) 924-9086

PRODUCT EVALUATION:

Shoei FM-2 Fairing

A handlebar fairing that can handle the wind.

• Shoei's FM-2 handlebar fairing is not new; it was introduced about a year ago. Even so, not many enthusiasts are aware that this lightweight fairing fits most street motorcycles simply by fastening it at four strategic points.

We mounted an FM-2 to a Suzuki GS1000E, using all the bracketry provided, including headlight and handlebar brackets. The headlight metal-prong brackets horizontally align the fairing, which when mounted presses its rubber seal firmly against the headlight's rim.

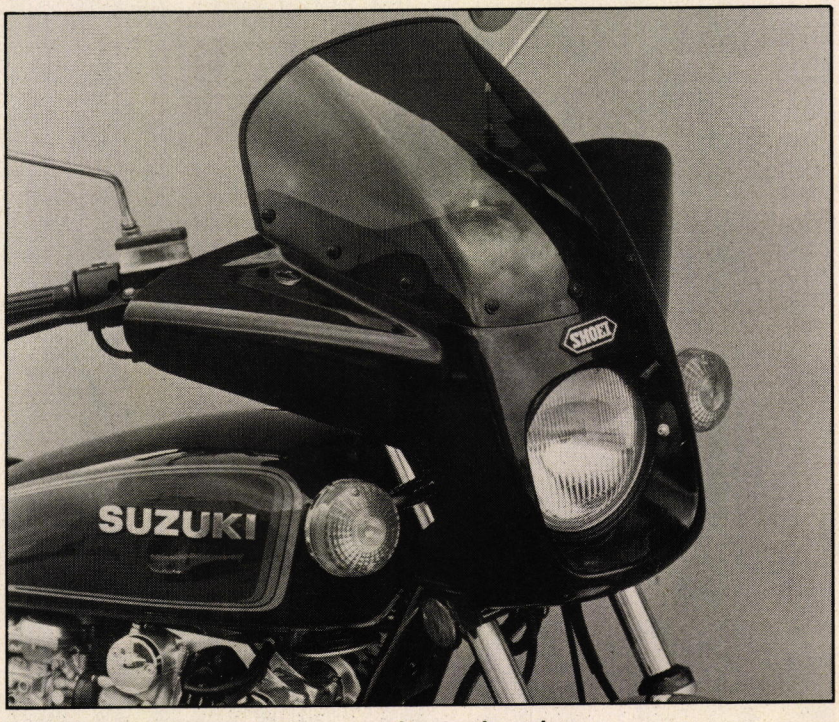
The fairing's side shields are held snug to the handlebar by two rods that have 90-degree bends for adjustability. The rods pass through rubber vibration grommets that are held in place by clamp brackets. Spray a little contact cleaner from an aerosol can on the rubber for lubrication during assembly, so the rods easily slide through the grommets. The cleaner evaporates quickly and doesn't deteriorate the rubber. Tighten the metal clamps around the grommets and the fairing is ready for the smoked windscreen to be attached.

There's not much secret to mounting the windscreen, other than inserting the center-front nylon screw first, then working rearward. That way, the stress is forced to the outer ends of the screen, lessening the chance of the plexiglass cracking from vibration. You don't have to reposition or remove the handlebar and mirrors, either, since the FM-2 is intended to fit motorcycles with OEM bars and mirrors. Also, once the fairing is positioned, the mirrors *can't* be removed, since the screen interferes with the mirror's rotating plane.

Although designed as a sport fairing, the FM-2 gives you the benefits of a touring fairing on the road. The wind is routed around it, so the bulk of your torso gets a respite from the cold air. You'll still feel the 55-mph cold-air blast on your legs and helmet, but your hands and body remain relatively unruffled by the wind. Even with good wind penetration, the FM-2 didn't cause our GS1000E's front end to wiggle or feel light, even at speeds close to 90 mph. The FM-2 ideally combines sporting looks and performance with optimum protection.

Shoei sells the FM-2 in black or white. Each costs $130, and they are available from Helmet House, 2115 Colorado Avenue, Santa Monica, California 90404. There's also a metallic-silver FM-2 that's color-coded to Honda 750s and CBXs, and a new FM-3 to fit bikes with low handlebars.

—Dain Gingerelli

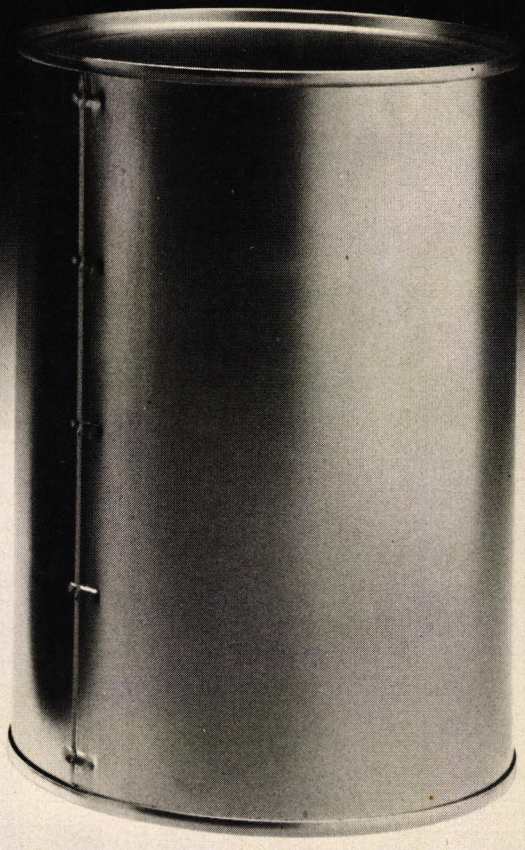


One fairing fits all, thanks to four strategic mounting points

Simply put, it's a well-thought-out, tidy package.

SOME THINGS YOU CHANGE.

SOME THINGS YOU DON'T.



After years of making some of the finest high-performance motorcycle lubricants you can buy, we've finally managed to make an improvement: to our package.

Which should tell you all you need to know about Yamalube products. That even after exhaustive testing by our own engineers, years of grueling road racing and mud-slinging motocross, Yamalube has proven itself a winner.

And you don't change a winner.

Yamalube 2 is still a balanced blend of premium quality petroleum base stock mixed with special additives that protect high-revving 2-stroke engines.

Yamalube 4 is still specially formulated for 4-strokes and their valve trains. When used in transmissions, it extends gear and clutch plate life too.

And for the extra protection two-stroke racing demands, Yamalube R racing oil still features unique anti-wear additives to reduce friction, giving you that critical edge winners need.

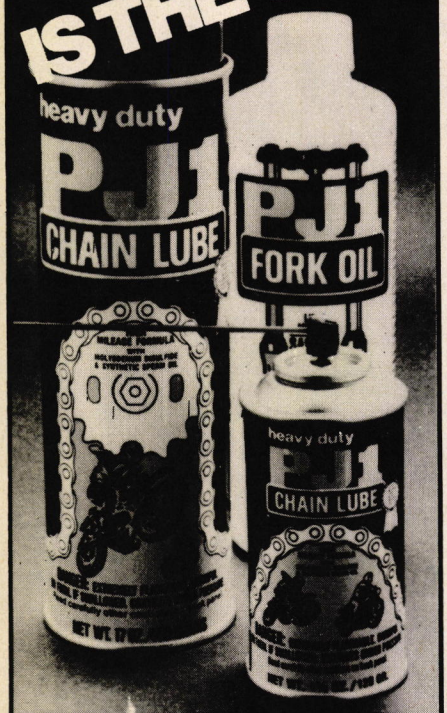
The only difference is, now all three Yamalube products look as slick as they perform.

YAMAHA

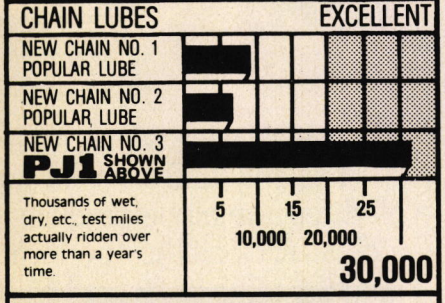
When you know how they're built.

PJ1®

IS THE ONE!



TRIPLED
CHAIN MILEAGE
TO OVER 30,000 MILES
UNDER ACTUAL RIDING CONDITIONS



"PJ1... is better than anything else I've ever tried."
Bob Anderson, Road Rider Magazine.

TREATS RUBBER O-RINGS
Heavy Duty PJ1 Chain Lube has been tested and used extensively on chains equipped with rubber o-rings and self-lubed chains. It has been proven to dramatically increase the mileage of such chains.

T-SHIRT OFFER
Send $3.95 for T-Shirt and/or Hat.
Indicate T-Shirt size:
sm. ____ med. ____
lg. ____ xlg. ____

PJ1 CORPORATION

PJ1 CORPORATION
5955 DESOTO AVENUE
WOODLAND HILLS, CA 91367

PRODUCT EVALUATION:

RUKKA Rainsuit

Sure cure for the wet look.

• Rain-dancers and cloud-seeders have it all wrong. The quickest way to produce a downpour is to juxtapose a freshly tuned motorcycle with a three-day weekend. Instant torrent. Which is not to say that rain has no place. It's just that I see its place as plashing softly against the windows while I plumb the mysteries of sleeping late. Not when I want to ride.

In simple terms, I'll never be fond of riding when it's wet. Or even more simply, when *I'm* wet. At the first sign of liquid weather soaking through my riding gear I start lowering my standards for a place to pull over. It's a reflex action. Lately, though, that reflex has had a rest, and not because the weather has been any more cooperative. The reason is RUKKA; and whatever it means in its native Finnish, to me it spells out *dry*.

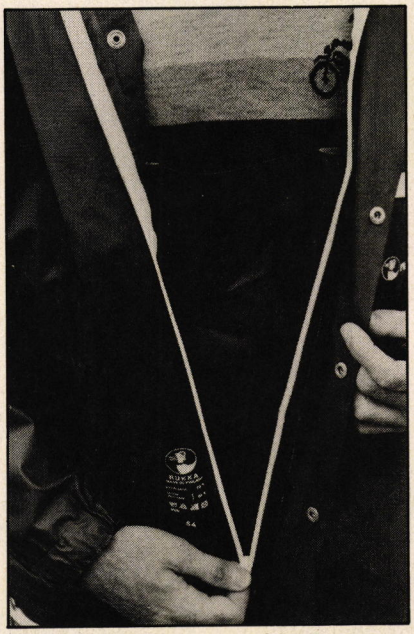
And warm. Because the RUKKA suit's rugged combination of softened PVC plastic over nylon polyamid with welded seams not only stops water, it holds back wind as well. And the one-piece suit's triple-covered nylon zipper on the outside and chest-high bib on the inside don't let poor design poke holes in what the material can do. Even in a full-on gullywasher, the RUKKA insures that the worst you'll get are waterlogged boots and gloves. That's a far shot better than turning suddenly sodden.

Dry isn't all the RUKKA leaves you, though. Comfort also fits into the equation. The suit's elasticized sleeve-cuffs fit snugly at the wrists without cutting off circulation, while the snap-fastened pant legs let you get into or out of the RUKKA with boots on and still have a neat fit with no flapping at the ankle. In fact, the suit's fabric is stiff enough to ride through 100-mph winds (measurements taken at the speedometer) without beating you into submission. And at normal highway speeds the RUKKA is simply unflappable.

A list price of $84.95 seems high for a rainsuit, but with the RUKKA you get what you pay for. A choice of seven men's sizes and six women's sizes guarantees that you'll be the height of wet-set fashion. Further, the suit has survived months of hard wear and intimate contact with hot exhaust systems without apparent damage. Rivets are used at major stress points—and that includes the snap-fastened change pocket on the left breast and the handy map pocket on the right thigh. Snaps are also used at the throat, where Velcro would have provided a more useful range of adjustment.

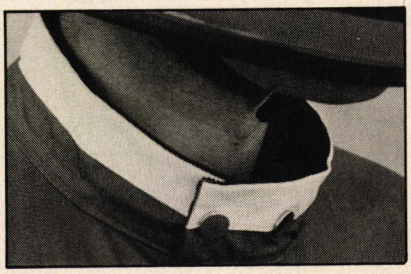
Manxman Ltd. is the wholesale outlet for RUKKA suits, while mail order business is handled by several other sources. This suit came from Bavarian Cycle Works, 385 8th Street, San Francisco, California 94103. If all-weather riding appeals to you—or if getting caught out in the rain doesn't—the RUKKA deserves room in your tank bag.

—Larry Works



Battle gear for the war against water

Sticking fingers in the bikers' dike!



RUKKA's map pocket and open collar

The pocket works; the collar doesn't.

CYCLE RIDER of CALIFORNIA

- WE'RE THE #1 VOLUME VETTER DEALER IN THE U.S.A.
- OVER $100,000 WORTH OF VETTER INVENTORY ON HAND
- OVER $500,000 WORTH OF TOTAL INVENTORY ON HAND
- WE'RE FAMOUS FOR FAST SERVICE AND RELIABILITY

TOURING AIR FORK KITS
Complete with Caps, Valves and Equalizers

	2 or more	1 only
Kit	31.80A	32.95A

ELDORADO DELUXE
Includes Top Rack, Rails and Backpad

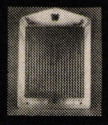
	2 or more	1 only
Blk. or Wht.	131.00D	137.95D

FLOORBOARDS

2 or more	1 only
75.95B	79.95B

PASSENGER BOARDS

2 or more	1 only
37.95B	39.95B



DRESSER GRILLE

	2 or more	1 only
Chrome Goldwing CX500	66.45C	69.95C
Brass Goldwing CX500	85.45C	89.95C

SHADOW CLASSIC
Features: Automotive Air Vents, including Brackets and Windshield. Blk., Wht. or Slvr.

	2 or more	1 only
Fairing	322.00F	339.00F
Lowers	54.14B	57.00B

PLEXIFAIRING

	2 or more	1 only
Clear	89.25C	94.00C

m/c CASEGUARDS WITH FOOTPADS

2 or more	1 only
44.60C	46.95C

ELECTRO HELMETS
Comes in Hat Sizes
Black, White or Silver

	2 or more	1 only
E-1 Solid	63.20B	66.50B
Metallic	66.00B	69.50B
E-3 Solid	90.75B	95.50B
Metallic	93.50B	98.50B

SHOEI FM-2

2 or more	1 only
Blk. or Wht. 104.15D	109.65D
Silver 128.40D	135.15D

KALKUTTER
Includes Pad, Rails & Lights

2 or more	1 only
Blk. or Wht. 137.70D	144.95D

S&W AIR SHOCKS

	2 or more	1 only
Black	110.10C	117.00C
Chrome	128.00C	135.00C
Gauge and Pump Kit	28.50A	30.00A
Compressor	175.75C	185.00C

Vetter

(With Headlamp Mask)

	2 or more	1 only
Blk, Wht. or Slvr. Windshield	151.00D	159.00D
10cm and Std.	13.75B	14.50B
+5cm Touring Brackets	18.00B	19.00B
CX500, CB750	39.85B	41.95B
All other 750cc and down	28.75B	30.25B

WINDJAMMER IV
(With Tonneau Covers, Leading Edge Lights, Adjustable Headlamp, Stripping)

	2 or more	1 only
Blk., wht or Slvr.	230.00D	239.00D
Color match Windshield	280.00D	289.00D
−5cm and Reg.	23.70B	24.95B
+5cm or 10cm	Add $5.00 to Reg.	
w Pop Vents	Add $10.00 to Reg.	
Mounting Brackets	37.95B	39.95B

VINDICATOR
(Includes Stripping and Tonneau Covers)

	2 or more	1 only
Blk., Wht or Slvr. Windshield	198.50D	209.95D
	(Same as Windjammer IV)	
Mounting Brackets	54.15B	57.00B

LOWERS
(Includes Stripping)

	2 or more	1 only
Blk, Wht. or Slvr.	65.50B	69.00B
Color Match	80.50B	84.00B

SADDLEBAGS
(Includes Stripping and Texas Trim)

	2 or more	1 only
Blk., Wht. or Slvr.	195.00C	205.95C
Color Match	220.00C	230.95C
Mounting Brackets	56.95C	59.95C

TAIL TRUNK
(Includes Stripping, Texas Trim and Lights)

	2 or more	1 only
Blk, Wht. or Slvr.	150.95C	158.95C
Color Match	165.95C	173.95C

NEW! VETTER SOUND

2 or more	1 only
66.45B	69.95B

RADAR DETECTOR

2 or more	1 only
233.00B	245.00B

WE HAVE A COMPLETE LINE OF ALL VETTER ACCESSORIES IN STOCK!

MARKLAND FLOORBOARDS

	2 or more	1 only
GL-1000	155.00D	163.00D
All others	164.00D	173.00D

KERKER EXHAUST

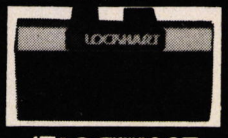
	2 or more	1 only
4 to 1 Chrome	160.55D	169.00D
4 to 1 Black	151.00D	159.00D

Partial listing—call for prices

NAVA HELMETS
Integal II
White, Black, Blue, Red & Yellow

2 or more	1 only
S-XXL 70.80B	74.50B

Navas run small. Please order one size larger than you wear



LOCKHART OIL COOLERS
(With Built-In Thermal Control Valve)
Honda and Kawasaki Fours

2 or more	1 only
Black 110.10B	116.95B
Chrome 128.20B	134.95B

Partial listing—call for prices

MR. SEATS
The Finest in Comfort

	2 or more	1 only
Dbl	93.80B	98.75B
Sgl	79.30B	83.50B

Slipstreamer II

	2 or more	1 only
Clear	60.50C	64.00C
Tinted	66.00C	69.50C

BELL HELMETS

	2 or more	1 only
Tourstar	62.25B	65.50B
Star II	84.00B	88.50B
Moto III	81.25B	85.50B
R-T	47.00B	49.50B
Mag III	70.50B	74.25B

CG FENDER & TRIM
Available in 5" or 6"

2 or more	1 only
Blk. or Wht. 85.45C	89.95C

SHOEI GF-1
Includes Brackets, Windshield and Adjustable Ventilators. Black.

2 or more	1 only
Fairing 403.70F	424.95F
Lowers 65.55B	69.00B

MILO ALARM

2 or more	1 only
2 Yr. Warranty 50.00A	52.50A
Pager 113.00A	119.00A

Detachable Suitcase, Saddlebags. Unbreakable, Streamlined and Lightweight

2 or more	1 only
3 piece set incl. brkts. 332.00E	350.00E
2 piece set incl. brkts. 266.00E	280.00E
Backrest 37.00E	39.00B

DYNA III IGNITIONS
5 Year Warranty

2 or more	1 only
83.40A	88.00A

WINNING EXHAUST

	2 or more	1 only
4 to 1 Chrome	156.00D	165.00D
4 to 1 Black	136.00D	144.00D

Partial listing—call for prices

SHOEI HELMETS
Sizes XS-XL

S20

2 or more	1 only
Solid Blk, Wht 54.65B	57.55B
Metallic Slvr., Red 57.25B	60.25B

S28
Sizes XS-XL
Solid Red, Blue, Wht., Blk, Yellow

2 or more	1 only
71.20B	74.95B

Call for prices on others

MICHELIN

	4 or more	1 only
350VX19	46.16C	48.59C
400HX18	41.49C	43.67C
425VX18	45.96C	48.38C

Includes F.E.T.
Partial listing—call for prices

DUNLOP

	2 or more	1 only
410X19K81	39.09C	41.15C
410X18K81	38.26C	40.28C
425/85X18K81	41.10C	43.26C

Includes F.E.T.
Partial listing—call for prices

GOODYEAR

	2 or more	1 only
350X19GTII	36.44C	38.36C
MT90X17GTII	49.10C	51.68C
375X19HST*	40.75C	42.90C
MT90-16HST*	48.74C	51.30C

*Tubeless
Includes F.E.T.
Partial listing—call for prices

Continental

	2 or more	1 only
325HX19RB2	36.35C	38.26C
350HX19RB2	39.24C	41.31C
425/85X18K112	44.67C	47.03C
450X17K112	46.07C	48.50C

Includes F.E.T.
Partial listing—call for prices

SEND FOR FREE CATALOG

CALL 1-800-423-3652 (213) 983-0817 FOR ORDERS ONLY (OUTSIDE CALIFORNIA) FOR INFORMATION AND CALIFORNIA ORDERS

WALK-INS:

20928 Hawthorne Blvd.
Torrance, CA 90503

13329 Sherman Way
No. Hollywood, CA 91605

9520 De Soto
Chatsworth, CA 91311

NO MAIL ORDER TO ABOVE ADDRESSES

FREIGHT CHARGE

FIND PRODUCT FREIGHT CODE AND APPROPRIATE GEOGRAPHICAL ZONE TO FIND FREIGHT CHARGES.

	WEST OF ROCKIES	MID WEST	EAST OF MISS.
A	1.20	1.45	1.65
B	1.75	2.60	3.40
C	2.65	4.40	6.15
D	3.75	6.70	9.60
E	4.80	9.00	13.05
F	32.00	45.00	60.00

AK, HI, PR, APO/FPO AND CANADIAN CUSTOMERS DOUBLE 3RD COLUMN RATES.

CYCLE RIDER OF CALIFORNIA • Dept. CG6 • 13325 Sherman Way • No. Hollywood, CA 91605

QTY.	SIZE	DESCRIPTION (Please indicate color)	PRICE EA.	TOTAL

I ENCLOSE:
☐ Money Order ☐ Cert. Check
☐ Master Charge # ☐ VISA #

Add Shipping
Calif. Res. add 6% Tax
TOTAL

NO PERSONAL CHECKS OR C.O.D.S ACCEPTED.

Credit Account # _____ Exp. Date _____

Bike Yr. _____ Make _____ Model _____ CC _____

Name _____

Address _____

City/State/Zip _____

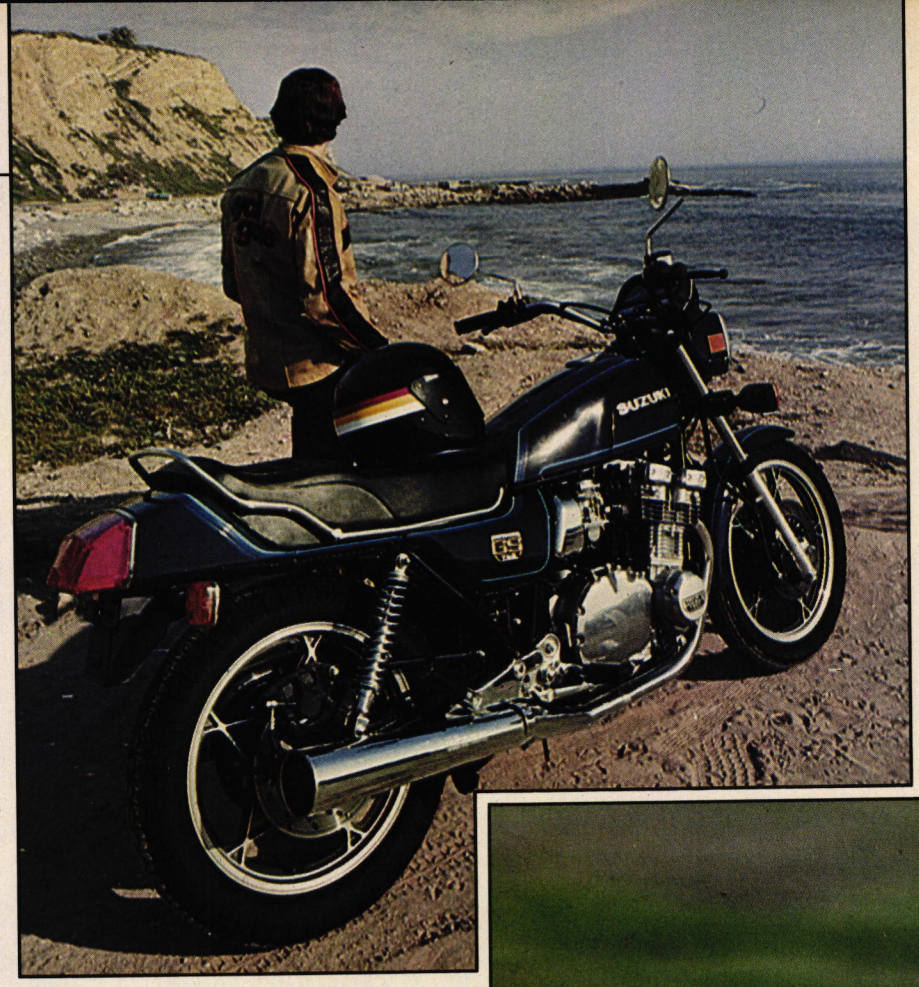
Your Phone No. (Daytime) _____

PRICES EXPIRE WITH NEXT AD • ALL PRODUCTS CARRY ORIGINAL MANUFACTURER'S WARRANTY

TR3
BIKE GLAZE.T.M.
IT KEEPS UP YOUR TOTAL IMA
BIKE
GLAZE
CLEANER AND POLISH
TR3
DANGER: HARMFUL OR FATAL IF SWALLOWED
NET 8 FL. OZ. (¼ PT.) 236 LITERS

GE.
TR3
THE ULTIMATE SKIN CARE FOR YOUR BIKE
KZ1300
Kawasaki

ROAD TEST:



Suzuki GS750ET

Tuning in the sensible superbiker with the wide-band 750. BY DAIN GINGERELLI

Two schools of thought dominate motorcycle engineering. The first is based upon cramming as much horsepower as possible into an engine's cylinders, then trimming every ounce of fat from the chassis. And the result is a high-strung high-performer like the 1977 Suzuki GS750, a bike that ushered in an era of lightweight, good-handling four-cylinder superbikes. The second school rejects such high-performance idealism in favor of the kind that results in the bikes that most people buy: comfortable, full-size machines with an emphasis on flexibility. Bikes like the new GS750ET.

Suzuki product planners called for a change in their 750's role because the versatile GS1000 and hyperfast GS1100 already roost comfortably at the top of Hyperbike Hill. The 750 didn't have to carry the Suzuki fleet's high-performance colors anymore, which allowed the product planners to turn the 750 into the kind of bike they thought most street riders would want. As Suzuki's Geoff Mazon put it, the new GS750ET is meant for "the majority of 750-class riders in America. It's not for the backroad scratcher, because Suzuki feels that most 750-class riders—about 90 percent of them—don't ride that way. They want a motorcycle that is comfortable and smooth for *everyday* riding."

Because backroad handling wasn't of prime importance to those product planners, light weight and a taut suspension weren't top engineering priorities; the emphasis shifted to a quiet, smooth-running engine cradled in a stable chassis that offered a supple ride on the highway. To satisfy the formula, the new 750 has a recalibrated engine with a plain-bearing crankshaft and a 16-valve cylinder head fitted into a frame nearly like that of the original GS750. The major updates to the frame include a greater distance between the two backbone braces for more steering head rigidity and a shortened backbone for frame rigidity. The wheelbase has been stretched 0.8 inches for more stability, and the steering head angle has been increased one degree for the same reason. And roller bearings now reside in the steering head races instead of ball bearings. Altogether, these changes are meant to provide a 750 with highway stability suitable for the 90-percenters, while preserving the goodness that helped the previous GS750 inject handling into the superbike rider's vocabulary.

It was styling rather than handling that led to the installation of the ET's leading-axle fork, Suzuki's engineers report. Yet it still has functional merit, for it locates the front axle more positively than a straight-leg fork. A leading-axle fork gives up some response to small road imperfections, but Suzuki's model reduces stiction because its substantial fork tube/slider overlap minimizes binding. And anti-stiction bushings also work at the top of the slider and at the bottom of the fork tube to aid response. The fork's spring and damping rates are the same as on the old 750's fork. There are no air caps or adjustable damping features, just a sound and simple design. And the fork works as well as the previous one, fight-

ing off expansion joints and potholes with equal ease to deliver a comfortable ride.

A comfortable ride is the prime directive of the rear suspension as well. Thanks to a longer swingarm, the 750's shocks are cantilevered at a more pronounced angle than before. And although the spring rate of the shocks is the same as before, the swingarm has more leverage, effectively softening the spring rate. In addition, the shocks themselves have rebound damping five percent softer than before. So overall, the 750ET's rear suspension makes you feel as if you're riding a feather bed when you're cruising along the highway.

While the 750's soft ride is satisfactory for freeway riding, it still has its shortcomings, even for those 90-percenters who'll never feel the itch to scratch a footpeg. First, the shocks feel almost too soft in some circumstances, especially on the compression stroke. It's not uncommon to bottom them on city streets while traversing the rain gutters at intersections. You can bottom the shocks in the corners, too, even at moderate lean angles. The sound of the centerstand and muffler guards scraping the pavement will tell you so, and if you're bent on a hard charge up Radar Alley, the undercarriage will be striking sparks at every turn.

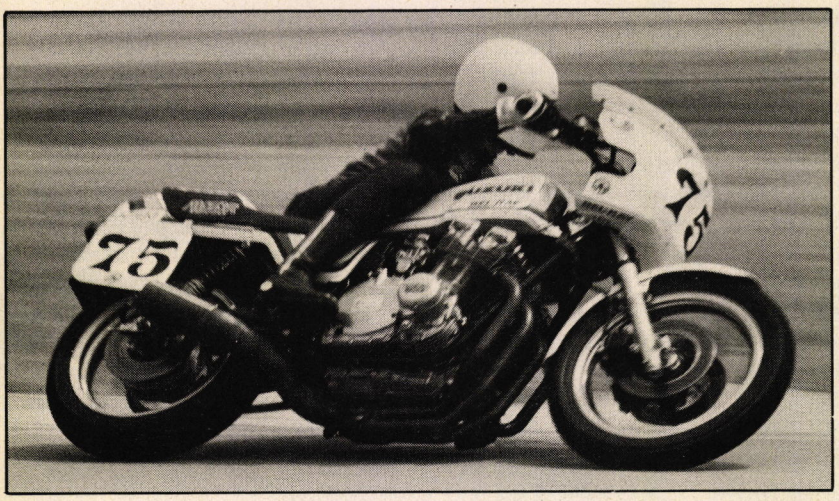
For those riders who need a recreational motorcycle instead of a sport bike, the ET's tendency to touch down is perfectly acceptable. But because we've tested the latest batch of 750s on the racetrack at Willow Springs, we felt obliged to evaluate the Suzuki there in a fashion that the 10-percenters would approve of. And as it turned out, the rear suspension caused much concern. It was too soft and spongy for high-speed riding, and during aggressive cornering the Suzuki worked itself into a wiggle like a mechanical snake because of a lack of control at the rear end. Because the shocks offered so little control, the fork felt stiff in high-speed bends, and the front end bobbed. When pushed to the edge, the ET's rude behavior front and rear would alarm a rider accustomed to the previous GS750's good track manners.

While it may make sense to equip a 750 for the 90-percenter, creating a wide-band motorcycle comfortable in almost every circumstance, it's a little confusing that Suzuki's engineers would ignore the 10-percenters. A wide-band biker shouldn't have to dread cornering at more than 70 mph, after all. Still, Suzuki claims that economics dictated the use of the previous

PHOTOGRAPHY: PATRICK BEHAR

Continued

Racer's GS: the winning solution



PATRICK BEHAR

• For roadracing types the GS750ET has a pretty powerful attraction, despite its weak suspension—the highest horsepower rating in the 750 class. To take advantage of this feature, California Suzuki of Orange, 1915 East Katella Avenue, Orange, California 92667 has built the first GS750ET for Production racing that *CG* knows of. And in the process, California Suzuki's general manager Phil Epler and his crew have broken trail for the street rider interested in tuning his Suzuki 750 for high performance.

The team's chief tuner Gary Davis finds much of merit in the GS750ET. The brakes and broad powerband earn his admiration, as does the frame's geometry. As for Suzuki's distinctive valvetrain, which uses cam followers instead of bucket tappets, he finds it "very much in order for high-rpm use." It's light, understressed and easy to maintain. Despite occasional missed shifts on the racing bike, Davis says, the valves have yet to float, indicating good valve control.

Only the Suzuki's suspension posed a real problem for the race team, but the solutions are straightforward. At the front Davis replaced the stock oil with an equal amount of 20-weight to firm damping. Then he fitted air caps and pressurized the fork tubes to between 10 to 12 psi for the progressive spring rate he wants on the racetrack—although he figures 5-6 psi would be sufficient for street use.

At the rear, the problems were solved just as easily. A pair of S&W H-series shocks have firmer damping characteristics and because of a longer eye-to-eye length, typical of S&W units, quicken the chassis steering somewhat by lifting the rear end, thereby reducing the steering head angle. For springs, Davis first considered dual-rate items specified at 85 lb/in^2-145 lb/in^2, but too much suspension movement for racing purposes resulted. He thinks these springs will be perfect for street use, but uses 120 lb/in^2 springs for the racer.

Although the bike pictured here has a quarter fairing, four-into-one pipe and a wire wheel for endurance racing, the bike carries mag wheels, standard pipes and no fairing for Production competition. Davis says of this bike's transformation from streeter to racer, "These days, your development is usually done after you get the tires and suspension figured out. Bikes aren't built with hinges in the middle anymore, so the problems are easier to solve."

AMA Professional Dave Emde rides this bike to keep his racing reflexes sharp whenever his schedule permits. He's already racked up a few trophies and says the bike "just floats through the high-speed corners. And it just loves esses. You can flip it from side to side because it's so controllable."

This motorcycle might be a racer, but the relationship between it and your street bike is far closer than you would expect. If you're offended by your Suzuki's behavior at the far reaches of speed, the experience of California Suzuki of Orange indicates that a minimal amount of work will not only bring out the trackwise goodness hidden within the ET but make it a winner in the race for 750-class superiority.

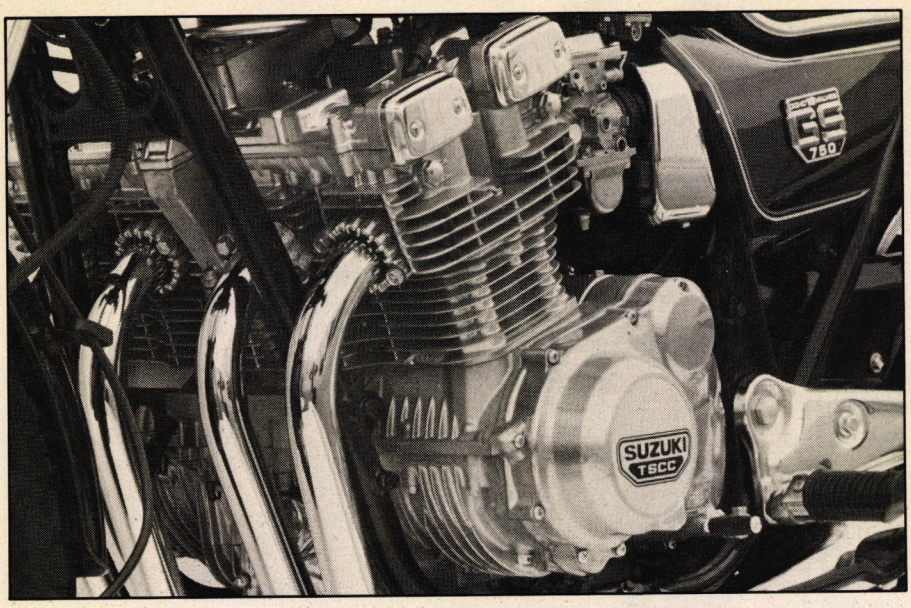
—Michael Jordan

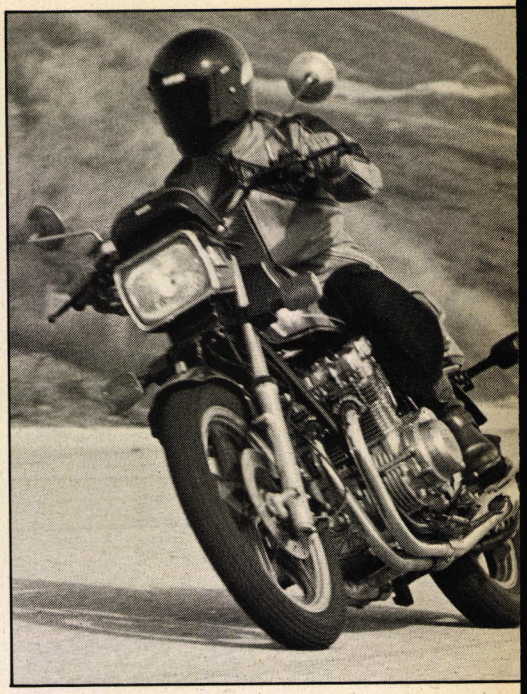
750's rear suspension units to keep the ET's price under $2800. But don't be surprised if next year's GS750 has rear shocks with four-way adjustable damping—if only to keep pace with the Honda CB750F's and Kawasaki KZ750 Four's adjustable rear suspenders.

The GS750ET deserves better rear suspension because the engine is so good. Thanks to a 16-valve cylinder head, 32mm constant-velocity carburetors, a more oversquare relationship between bore and stroke and Suzuki's Twin Swirl Combustion Chamber design, the new engine churns out 11 more horsepower than before. Basically the same clutch and transmission as before transmit the power to the 18-inch rear wheel with its V-rated Bridgestone tire. Responsiveness and power at cruising rpm are the keynotes, although the 750 lacks the roll-on power of the Kawasaki 750. The 16-valve TSCC cylinder head is in large part responsible for the bike's broad powerband, because the layout combines good intake charging at low rpm with more efficient combustion. In addition, exhaust tuning distributes torque more evenly throughout the power curve compared to the former GS750's eight-valve engine. And the new CV carbs make throttle response quick and decisive.

So while the GS750ET is 17 pounds heavier than the old model, the 15 percent increase in power the Suzuki engineers claim adds up to the same acceleration as before. But more to the point, in a wideband bike meant to be supremely flexible, the ET is far more tractable in everyday riding. So calm and powerful is the new engine at 4400 rpm that it almost feels like a one-liter motor instead of a 750. The new rack-and-pinion clutch release mechanism makes getting away from stoplights easy because engagement is precise, and when you want to dial the speedometer to its higher digits, there's no need to click down a gear, no matter what rpm you're turning. Just twist the throttle and the engine begins to perk with power.

You can't get overconfident with roll-on power though, because the Mikuni CV carbs have a flat spot between 3900 rpm and 4200 rpm, a by-product, no doubt, of their compliance with EPA emissions regulations. You notice the hesitation most during fierce acceleration in first gear, then everything feels all right as you climb through the clean-shifting gearbox. But once you settle into top gear at cruising speed, you'll find yourself at 4200 rpm again, where the 750 will surge slightly. Ironically, the flat spot keeps the 750's acceleration at that speed from seeming as abrupt as the GS1100's, but it's still best to





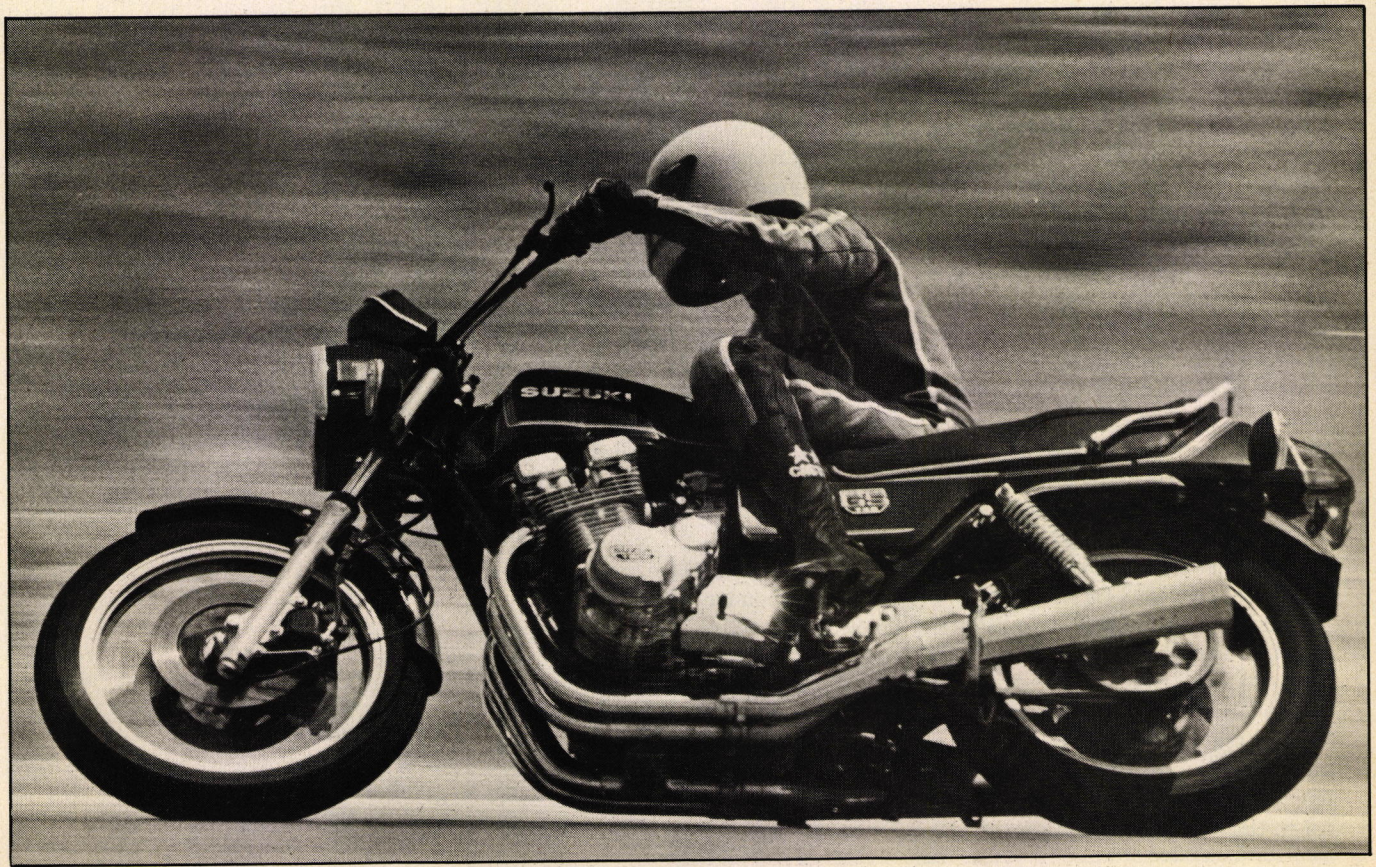
Second-generation 750 sporting TSCC, more power and more weight

A 750 engine looking and behaving like a 1000.

call down to the boiler room for more steam and set the tach needle to about 4500 rpm. Here the engine spins so smoothly and happily, you'll swear you were riding a 1000. And to help pamper you during long cruises that the motor's minimal vibration encourages, the 750 has a dual-density foam seat like on the GS1100 and GS850 that has that elusive combination of suppleness and support.

Considering this bike's ultra-soft ride and styling that is so similar to the GS1100's, you'd figure Suzuki was intent on producing a 750 with all the characteristics of what have begun to be thought of as "full-size" bikes—the literbikes. And you'd be right. For in everything from ride to handling to exhaust rumble, the 750 feels like a full-size bike. None of the compromises of a temperamental 750 sport bike—a cammy powerband and rugged ride—show up on the Suzuki. Gas mileage on the ET is extraordinary, the riding position exemplary, roll-on power sufficient and flexibility up to the mark.

These are the characteristics that set the GS750 apart from its competition, for its tautly-strung rivals from Honda and Kawasaki don't prove as easy to live with as the GS. Suzuki has taken the benefits asso-

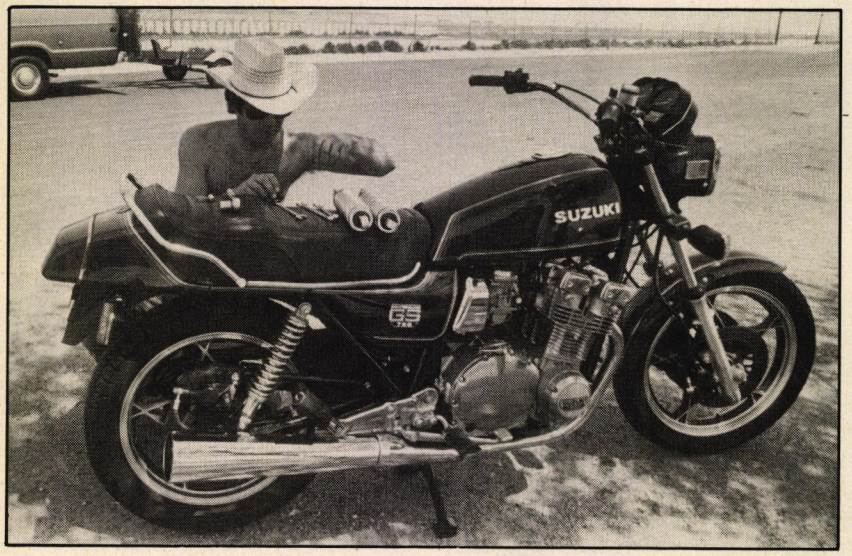


Continued

ciated with the full-size bike and squeezed them into a configuration with three-fourths the engine capacity.

In the end, of course, the comparison to larger bikes comes back to haunt the 750ET, because the big Suzukis sit at the head of the performance class. The 750 is a wide-band bike with broad appeal, but substantial sacrifices in cornering performance and 30 pounds too many (suggesting that while Honda, Kawasaki and Yamaha learned the lesson of the 506-pound GS750, Suzuki didn't) keep it from real greatness. On the whole though, the idea of a multi-role 750 is just as important as that of a lightweight 750. And while the GS750ET might be only 90 percent of what it could be, as far as the vast majority of riders are concerned, 90 percent qualifies for an A on this bike's report card. •

The 10 Percent Solution



• For the sporting rider, Suzuki engineers missed the target when they tuned the GS750's rear suspension. Though calibrated for multi-purpose riding, the rear suspension ironically keeps the Suzuki from sparkling as the perfect wide-band 750.

Those engineers might have hit the bull's-eye, though, if they'd fitted the 750 with shocks and dual-rate springs from the GS1000 as I did. While the initial rate of the GS1000 springs is softer than that of the single-rate GS750 springs, the second rate is much stiffer. Overall, the GS1000 springs keep the 750 from sinking to its knees as soon as you take a seat. The bike doesn't suddenly ride like a buckboard, either. More importantly, though, the overall spring rate is stiff enough to provide more cornering clearance. You'll find that you won't be grinding the ends of the footpegs into non-recyclable shavings every time you turn out of your driveway.

The GS1000 shocks also provide a bonus besides a stiffer spring rate—four-way adjustable rebound damping (compression damping is almost identical to the 750's shocks). Although the angle at which the shocks are installed reduces the damping rates of the GS1000 units, Suzuki's technical service people indicate that damping positions No. 3 and No. 4 provide more damping than with the 750's shocks. So while I found position No. 2 perfect for riding around town, I could dial up the damping whenever riding double or pavement scratching in the mountains.

I took the 750ET to Willow Springs Raceway to find the suspension's limits and discovered that damping slot No. 3 kept the 750 as steady in the corners as it would ever be, while spring preload No. 4 gave me sufficient cornering clearance. The bike still bucked and wiggled when pressed to its limits, but with far less drama than the stock set-up offered.

It costs about $160 to graft a pair of GS1000 suspenders to a 750ET, but I'm convinced it's worth it, in terms of comfort as well as performance. Unfortunately, the GS750ET still doesn't match either the Honda CB750F or Kawasaki 750/Four as a true 10 Percent Solution. It's still a wide-band motorcycle, but with more refined manners.

—Dain Gingerelli

Ride Review

• Already I can hear the radical fringe whining that the GS750 has forsaken the ideal of high performance associated so long with superbikes. After experiencing this Suzuki's 90-mph snake-dance on the racetrack, I might be even tempted to agree with them. But I don't.

This is a street bike, not a race bike. And that means the Suzuki emphasizes flexibility, comfort and economy, virtues that make it easier to live with than its competitors from Honda and Kawasaki. In some circumstances, to be sure, the Suzuki's mild-mannered personality works against it, but not for 90 percent of the riding that I do.

Despite its outrageous styling, the GS750 resembles the GS1000 far more than the GS1100. And while I'm surprised the 750 can't handle speed like the 1000, I'm still fonder of street bikes than high-strung pseudo-racers. *—Michael Jordan*

• Put me in a garage full of superbikes when it's time to knock off and I'll hit the highway on the GS750 more times than not. Its smooth-revving engine, plush suspension and an even plusher multi-hour saddle add up to a persuasive invitation. No effort at all is required to convince me that the long way home is the way I'll go.

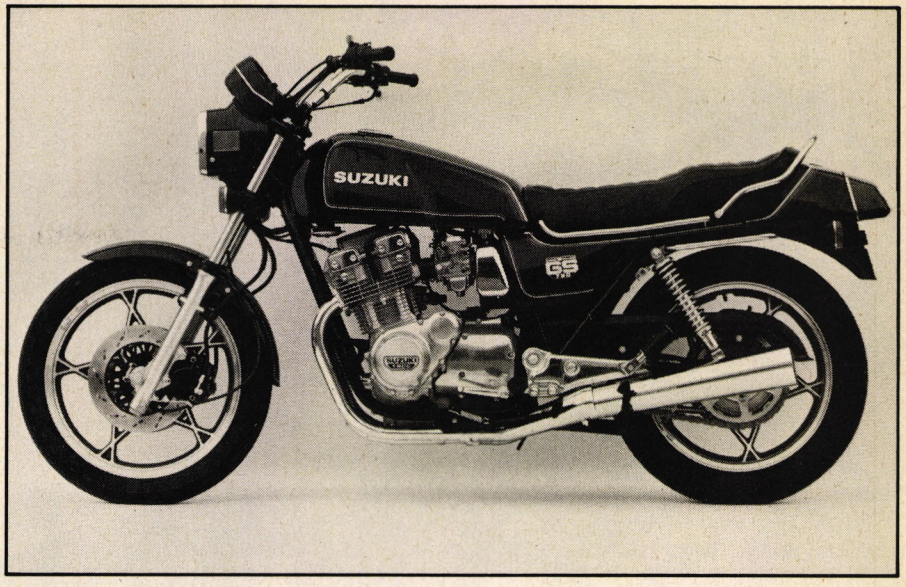
But start me off again at that same garage when there's time to slice up some choice apexes and any of a score of other bikes get the nod. Call it modesty if you wish. Maybe even a twinge of prudishness. Whatever, I'm just plain embarrassed when the Suzuki works its way out to the twisties; even a moderate run sets the ET's underthings to the tarmac with clockwork regularity. And that's nothing short of a shame. Because a bike that's as good as the GS750 is most of the time shouldn't air its dirty linen with such little provocation. *—Larry Works*

• The clean lines and fancy looks of the GS750 really appeal to me. Remembering its close cousin, the GS1100, I was also tempted by the mechanicals. But now I know I was fooled.

After every ride I had to remind myself that this 750 really is a blood relative of the 1100. The 750 itself certainly never reminded me. The suspension is one major area that needs help. The rear end in particular wants changing. I probably can live with the fork.

But I could not live with the seating position. It cramped my 6-foot-two body even though I never had a similar problem with the nearly identical 1100. Then I realized why. With the GS1100, the motor is so impressive that I never have time to think about anything else. The GS750, on the other hand, has just another 750 motor that does nothing to distract me from my aching back. GS1100-style looks just aren't enough. *—David Dewhurst*

Suzuki GS750ET



SPECIFICATIONS:

Importer: U.S. Suzuki
13767 Freeway Drive
Santa Fe Springs, California 90670

CATEGORY: street

SUGGESTED RETAIL PRICE: $2799

ENGINE

Type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts, four valves per cylinder
Bore and stroke ..... 67.0mm x 53.0mm
Displacement 747cc
Compression ratio 9.4:1
Carburetion ..... four 32mm Mikuni constant-velocity
Air filter ..... disposable paper element
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... transistorized breakless

DRIVETRAIN

Primary drive ..... helical gears
Primary drive ratio 2.162:1
Final drive type ..... #630 chain (¾-in. pitch, ⅜-in. width)
Final drive ..... 15/41 :2.733:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.571	15.19	5.0
II	1.771	10.49	7.3
III	1.380	8.15	9.4
IV	1.125	6.64	11.6
V	0.961	5.68	13.5

SUSPENSION/WHEEL TRAVEL, IN.

Front ..... 35mm stanchion tube diameter/5.3 in. (135mm)
Rear ..... 5-way adjustable spring preload/4.3 in. (109mm)

BRAKES

Front ..... dual single-action hydraulic calipers, 10.8-in. (275mm) discs
Rear ..... double-action hydraulic caliper, 10.8-in. (275mm) disc

TIRES

Front ..... 3.25H19 Dunlop Gold Seal F8
Rear ..... 4.00H18 Dunlop Gold Seal K87

DIMENSIONS AND CAPACITIES

Weight ..... 523 lbs. (237.2kg)
Weight distribution ..... 46% front, 54% rear
Gross vehicle weight rating ..... 1020 lbs. (462.7kg)
Wheelbase ..... 59.8 to 61.3 in. (151.9 to 155.7cm)
Seat height ..... 31.8 in. (807mm)
Handlebar width ..... 30.8 in. (782mm)
Footpeg height ..... 13.0 in. (330mm)
Ground clearance ... 5.8 in. (147mm), at center exhaust clamp
Steering head angle ..... 28 degrees from vertical
Front wheel trail ..... 4.06 in. (103mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 4 qt. (4.2/)
Fuel tank ..... steel, 4.7 gal. (17.7/), including no reserve
Instrumentation ..... speedometer, odometer, tripmeter resettable to zero, tachometer, fuel gauge, gear indicator panel

PERFORMANCE

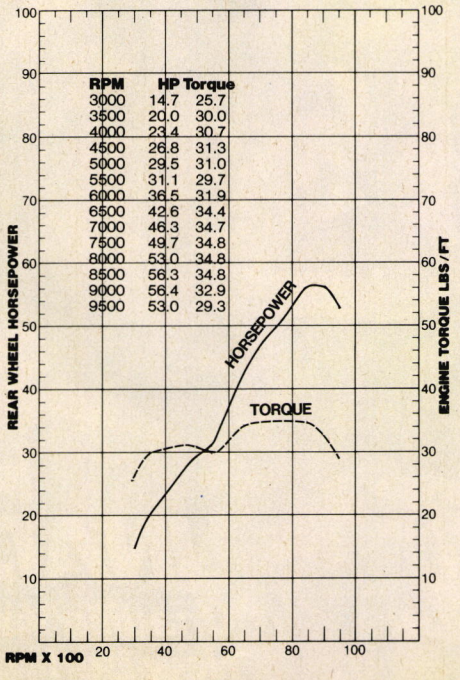
Fuel consumption ..... 39 to 55 mpg (16 to 23 km/l)
Range, maximum ..... 183 to 259 miles (294 to 417 km)
Speedometer error, 30 mph indicated ..... 29 mph actual
Speedometer error, 60 mph indicated ..... 59 mph actual
Best ¼-mile acceleration .... 12.62 sec., 105.5 mph (170 kph)
Top speed (calculated) ..... 122 mph (196 kph)
Stopping distance from 30 mph ..... 29 ft. (8.8m)
Stopping distance from 60 mph ..... 130 ft. (39.6m)

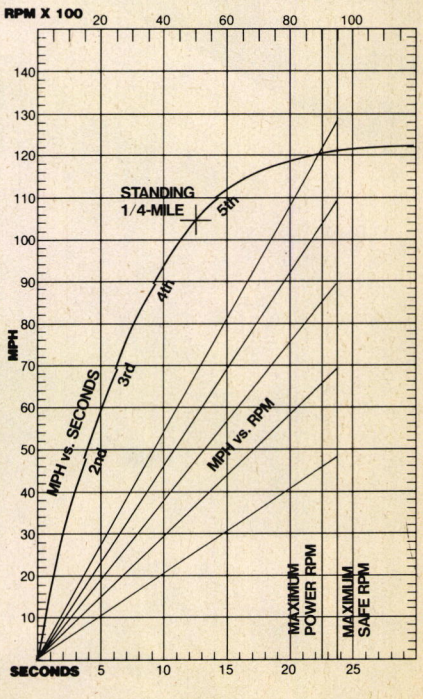
All weights and measurements are taken with machine unladen and fuel tank empty.

COMPARATIVE TEST DATA:

Make	Quarter-Mile, sec/mph	Top Speed, mph	Weight, lbs	Stopping Distance From 60mph, ft.
Suzuki GS750ET	12.62/105.5	122	523	130
Suzuki GS750LN	12.87/103.5	120	526	129
Honda CB750F	12.41/106.8	128	524	135
Kawasaki KZ750/4	12.50/107.8	127	471	134
Kawasaki KZ650 Custom	13.16/100.2	116	483	125
Yamaha 650 Maxim I	12.60/107.4	120	453	128

PERFORMANCE:





CARLSBAD, CA.
June 21-22
AMA
SANCTIONED
FIM
BEL-RAY
U.S.G.P.
500cc
250cc
Twice a year, when the weather becomes fair, they come. To terrorize the extremes of the U.S. The World Champions of Motocross, in World Championship Events, brought to you by the World Champion of Lubrication, Bel-Ray.
Kawasaki
37
July 19-20
UNADILLA, NY.
Unadilla Valley Sports Center
New Berlin, New York.
AMA
SANCTIONED

PHILADELPHIA SUPERCROSS 1980

AMA SANCTIONED

JFK STADIUM
SAT., AUGUST 9 8PM
SUN., AUGUST 10 2PM

TICKETS ON SALE SOON...$6, 8, 10 & A LIMITED NUMBER OF RESERVED SEATS $15. CHILDREN 12 & UNDER HALF PRICE. FOR TICKET INFORMATION WRITE: PACE MANAGEMENT, 1124 LOVETT BLVD. HOUSTON, TX 77006. OR CALL (713) 526-7666.

AMATEUR RACES

ENTRIES & INFORMATION
CONTACT: PAUL SCHLEGEL
1390 GAGE ROAD
TOLEDO, OHIO 43612

Experience Castre™ Motocross Gloves & Goggles !

Castre. The name means experience, and that's important when you design the best in motorcycle gloves, boots, goggles and accessories.

Castre motorcycle products are built from solid experience.

But experience isn't the only word at Castre.

We're totally involved in the sport, so we design our products with the integrity and quality you expect from the very best.

And you should always wear the very best equipment available.

That's because, motorcycling is a moving experience and when you ride hard you need protection that holds up !

C-8700
Junior Hot-Cross Glove
14.95

C-3000
Cross Country Glove
24.95

new Castre Goggle

C-8000
Hot-Cross Glove
24.95

C-3700
11.95

Please send check or money order to:

CASTRE

CASTRE, INC.
836 Flory Mill Road
Lancaster, Penna. 17601

ORDER BLANK

Please send the following post-paid items to:

Name _____

Address _____

City _____ State _____ Zip _____

A. Official Castre T-Shirt of the finest quality blend of 50% cotton and 50% polyester. Blue with white lettering. **$5.00**

B. Blue and White Official Castre nylon mesh cap with silver and blue embroidered patch. **$5.00**

C. Official Castre Road Race Calendar, one silver and blue embroidered Castre Patch, and two blue and white Castre Stickers. **$3.00**

TOTAL ☐

CAP @ $5.00
(One size fits all)
QUAN. _____

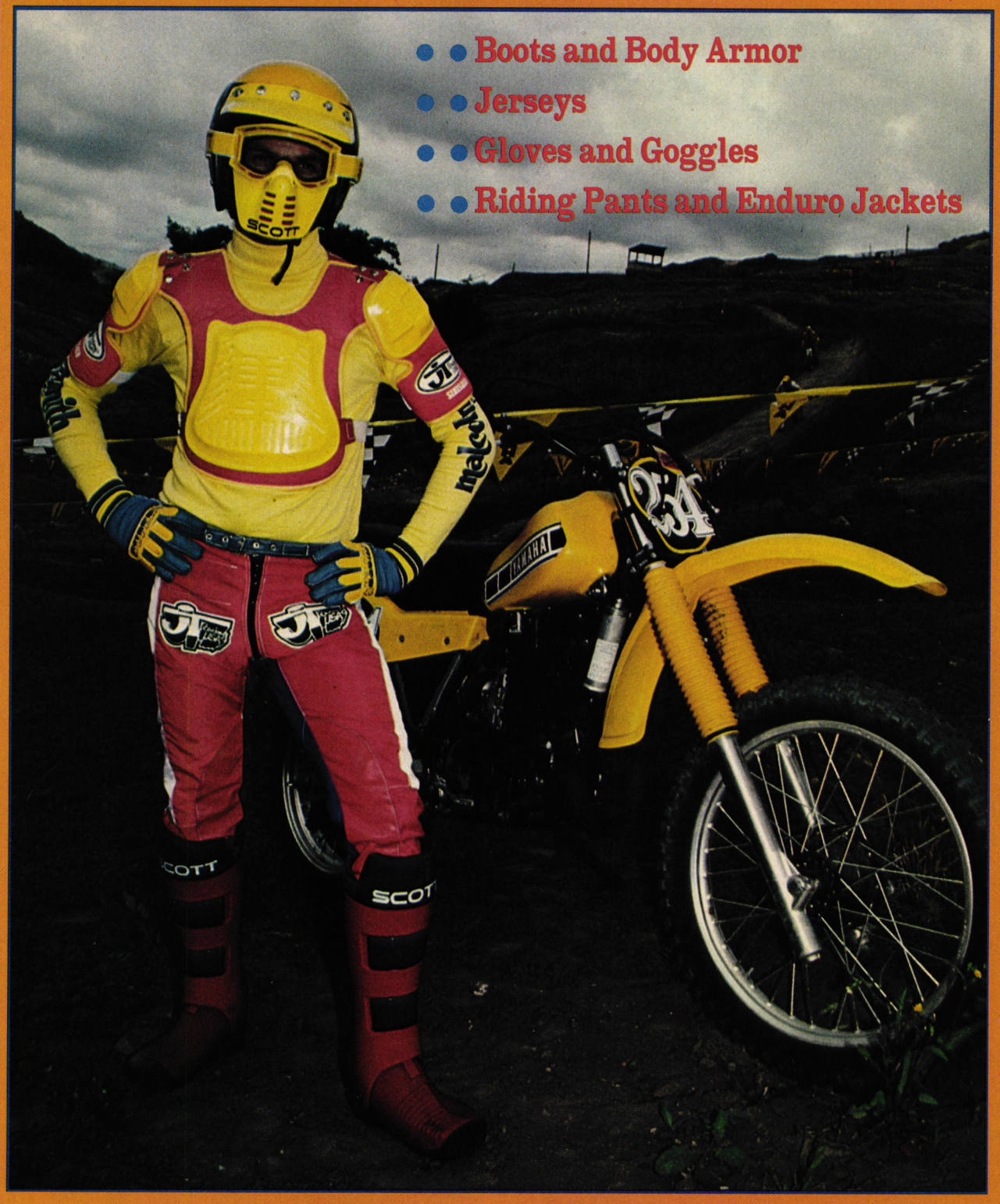
CALENDAR, PATCH, 2 STICKERS @ $3.00
(Pa. residents please add 6% sales tax.)
QUAN. _____

T-SHIRT @ $5.00
QUAN.
_____ Small
_____ Med.
_____ Large
_____ X-Lrg.

Cycle Guide's

SPECIAL EDITION

Gear up to get dirty:
a comprehensive guide to the dirt rider's wardrobe.



Off-Road Riding Gear

can make the difference between remounting quickly after a fast tumble or spending days or weeks in pain and plaster.

A drastic comparison perhaps, but it's a fact that many common off-road riding injuries could be much less serious in nature, or could be avoided entirely through the use of proper protective equipment. It's only common sense when you consider that safety attire is more important for motor sports than for any other sport yet devised.

The following pages contain what we believe is the most comprehensive guide to off-road riding gear ever compiled. Its purpose is to provide you with as complete a picture as possible of every article of off-road riding gear available in the U.S. today. Armed with this information you will know exactly what is available, and therefore be better prepared to make a sensible choice when it comes down to laying down your hard-earned cash.

Outfitting yourself with the correct riding gear today means much more than just choosing the amount of protection you think is necessary—it means making a choice for comfort, durability and style as well.

For instance, most riding pants now are cool, lightweight and comfortable nylon or nylon-leather combinations. They are available in a wide selection of styles and colors to match the brand of bike you ride and to please even the most outrageous tastes. Protection devices include slip-in knee and shin guards of various designs and some form of hip padding. Better brands even have elastic sections down the sides of the pants to provide a comfortable fit without overstressing the seams. Today's riding pants are a far cry from the hot-and-heavy all-leather pants of just a few years back that offered only bulky padding for protection. Some riding pants even are made from exotic fabrics that have proven to be more durable than leather in various types of skid tests.

No matter what articles of off-road clothing you're planning to purchase, don't make the mistake of choosing an item for looks over function. There's nothing stylish about hitting the dirt. If your gear doesn't offer you good protection from hitting terra firma at speed, or if it lasts for only one get-off, you've just paid a very high price for something that only *looks* trick. This is not to say that durable and protective gear cannot be stylish and colorful as well, because it can. But it is important that you thoroughly research the subject before you buy with the same care and attention you used when choosing your bike.

Perhaps the best way to decide which particular articles of off-road riding gear are worthy of your consideration is to first determine which look good to you (always an important aspect), then, if possible, ask riders who are wearing them how well the gear has held up and whether they would consider buying those items again. Next find a dealer who carries what you think you want and inspect each item carefully for its construction and its ability to protect you. Then try to determine its comfort and what size fits best. Remember, some things feel fine just standing in the parts department but may fit poorly or feel uncomfortable when you're on a bike. For this reason, you should ask the sales person to let you swing a leg over a bike to get a better idea of how things fit. Take your time before you decide. With today's prices you don't want to have to live with an expensive mistake.

It's also important to match your equipment to the type of riding you do. It all gets back to function. Enduro jackets are great for keeping your body heat in and keeping the rain and chill out, while providing lots of snap-down pockets for carrying spare goodies. But you're not likely to need one for motocross unless it's raining or snowing. For MX you'll want a cloth or vented nylon jersey for ease of movement and sufficient elbow padding to protect your skin from the sudden friction of a fall. Basically, you should match all of your equipment for efficiency to the task at hand instead of trying for a compromised complement of gear.

Whatever type of riding you do, be sure to choose your riding gear for any of the conditions you might come up against on a particular day's ride. It only takes one disastrous outing due to poor planning to etch in your mind the importance of being prepared for the worst. For example, cold-weather riding is nothing to fool with. The chill factor quickly brings the temperature down toward freezing when you're riding along with a wind blowing against you.

Many observant readers may have noticed that we've excluded helmets, visors and foul-weather gear. This was done intentionally, for we fully covered those subjects in the December '79 Helmet Special Edition and in the February '80 Foul-Weather Gear Special Edition.

We have found that some items are virtually identical with the exception of their graphics and possibly the name printed on them. For this reason we chose to list only the manufacturer or distributor in these cases and leave the personal-preference decisions up to you.

In some circumstances we may list only one type of item for a manufacturer, although that item may be available in several different forms. To run a photo of each variation of these items would require more space than we have available. These variations of style are listed along with their specific model number or name under the *Features* heading.

Catalog-collecting is an excellent way to get acquainted with each manufacturer's line of products—especially if you consider yourself a full-on enthusiast. Manufacturers and distributors who have catalogs will show a listing after their address and phone number on the final page of this Special Edition.

Think of this Special Edition as more than a fashion boutique. Remember that you're looking at equipment. Just as you select a motorcycle for the kind of riding you do, so, too, you insure that your riding gear matches your brand of riding. With that rule in mind you'll find it far easier to select the riding gear you need from the most complete reference work on the subject ever published.

Jerseys are available in two basic types—vented nylon and assorted cotton-polyester and cotton-nylon blends. Though vented nylon jerseys can be used for a variety of riding conditions, they are most commonly used for warm-weather riding. Cotton blend jerseys generally are more comfortable against the skin no matter what the weather, and are available in a wide variety of stylish color combinations and designs. Jerseys do provide a minimal amount of upper body protection, largely through elbow padding for abrasion resistance. The Gold Belt Line jersey features padding in the shoulders as well for those who refer to ride without strap-on shoulder pads. Some of the latest jersey designs incorporate a turtleneck to protect this normally exposed area.

Riding Pants are available in as many different styles and color combinations as riding jerseys. Today's riding pants have evolved from heavy and hot leather items to lightweight, comfortable pants built from either nylon or nylon-leather combinations, which offer superior protection and maximum freedom of movement. Construction techniques, fabric weight and the amount of protection offered to the knee and shin varies significantly from brand to brand. Therefore it's wise to spend a good deal of time inspecting various brands.

Boots provide protection to what may well be the most vulnerable portion of your body. Conventional boot design includes thick, quality leather, securely stitched soles, sufficient shin and ankle protection (both padding and armor), durable, easy-to-use fasteners, a steel plate in the sole for support when you're up on the pegs and, last but not least, a good, comfortable fit.

And then, there are the not-so-conventional boot designs, such as the Scott boots, which use plastics and man-made materials to sheathe your legs and feet in tough, armored shells.

Socks are offered by almost every major distributor in the industry. Designs with woven heels tend to be more comfortable than the tube-types. You'll find them available in a wide variety of fabric blends and colors.

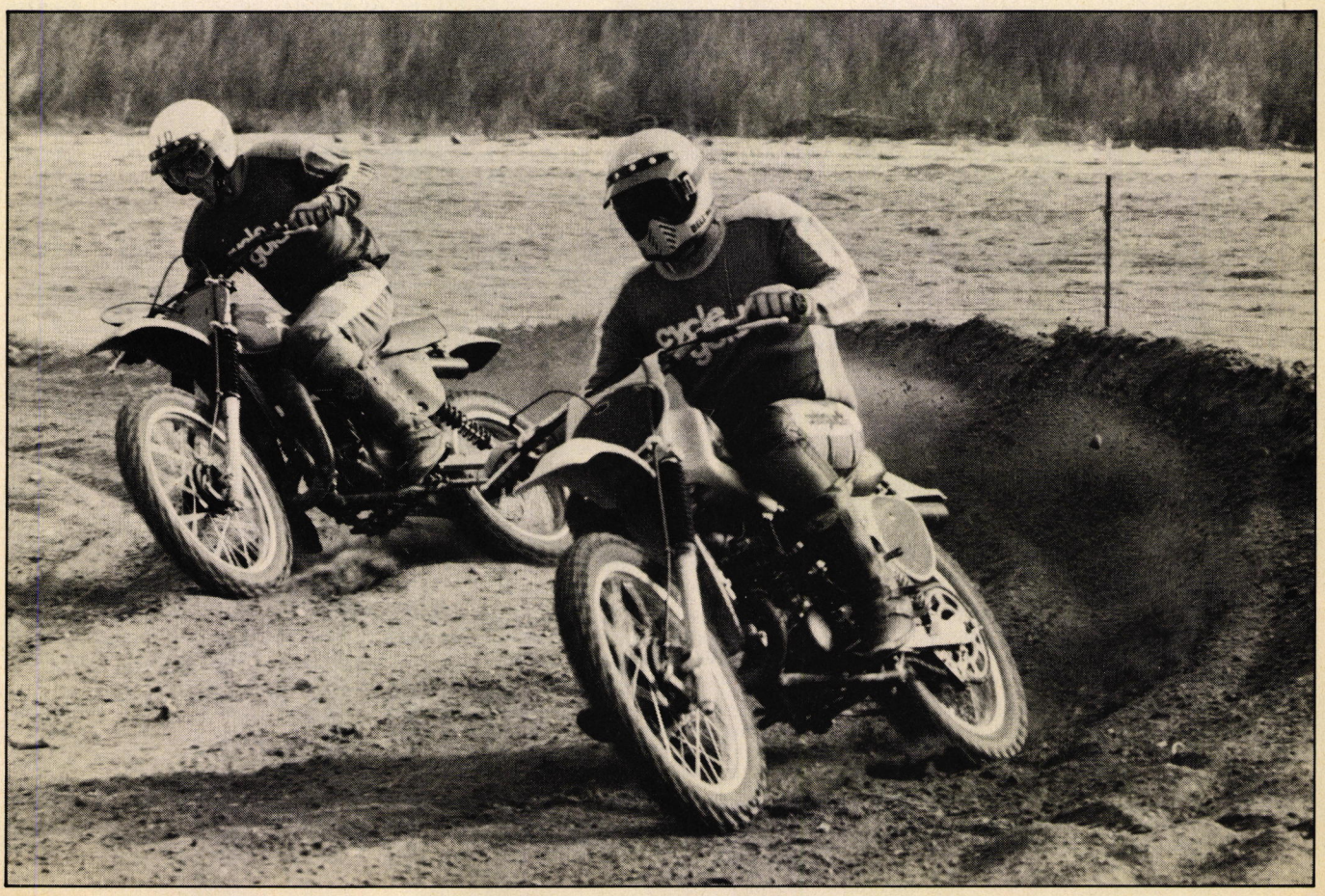
Gloves have improved greatly over the past few years in both durability and comfort. Better glove designs provide protection for the back of your hand and fingers through padding that cushions impacts. Some offer padding of assorted combinations and thicknesses in the palm area to help prevent blisters. Glove sizing is critical to avoid blisters. Slightly small is usually better than slightly large, since most gloves tend to stretch a little. A glove built to the contours of a hand grasping a handlebar offers better palm protection because there's less material to bunch up.

Goggles are selected mainly for their comfort and for the way they fit with your particular helmet. Most brands offer good protection from flying objects through specially designed lenses. Dust filtration usually is handled by foam inserts fitted over the vents—some designs are much more efficient than others. Most goggle manufacturers offer a variety of lens colors (some polarized) for different lighting conditions as well as tear-offs for optimising vision in dust, rain and mud.

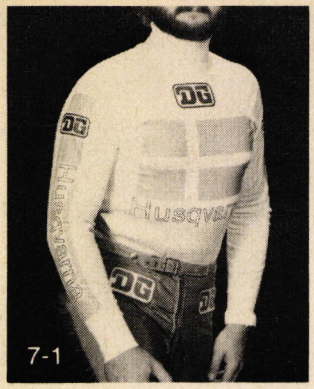
Kidney Belts for the most part are variations of the design developed for the Gold Belt a few years back. Most feature one to three wrap-around flaps that fasten with Velcro. This design offers a fit for a wide range of waist sizes. Sometimes further lower back support is provided through plastic stays integrated into the belt. The Trac-Pro belt features a large, vented plastic sheet for much greater back support. In general, kidney belts protect your internal organs from the harsh jolts of unexpected bumps and holes.

Enduro Jackets and Suits typically provide some protection from bushes and tree limbs while bashing about in the bush, not to mention some weather protection when it gets cold and wet. They cinch at the neck, wrists and the front with zippers, snaps and Velcro. Some jackets offer vented panels in the upper back. A few of these vents are zippered, while others are simply protected by flaps. A lining of sorts is a nice touch as long as it's removable for warmer weather. Pants for enduro riding range from a simple water-repellent "second skin" over your leathers to specially designed riding pants with further protection over the outside of your boots.

Body Armor for motorcycles started its life as armor for ice hockey. Some items, like shoulder pads, have been substantially redesigned to fit the needs of motorcyclists. Shoulder pad and chest protector combinations are available in more variations than any other piece of body armor. You'll find styles to suit a wide range of body sizes and tastes. Most riders rely on the knee and shin guards that come with their leathers and never bother to change them, even though there may be superior units readily available. Keep that in mind while you look this section over. Any piece of body armor is really a matter of personal preference. A common and unfortunate situation is that body armor is most appreciated (especially in the case of cups and supporters or shoulder pads) when you wish you had been wearing them. Don't learn the hard way.



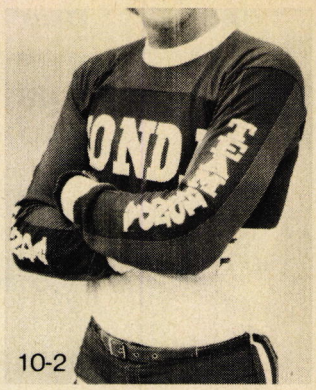
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
7-1	DG NECK SAVER	A unique design constructed of 50 percent cotton-50 percent polyester interlock, with a turtleneck for protection from flying debris.	Team	S–XL	$22.50
7-2	DG CREW NECK	A conventional design made of 100 percent cotton for maximum comfort. A wide selection of team logos, stripes and colors is available.	Team	S–XL	$14.50
10-1	MOTO-X FOX SUPERFOX	Constructed of 50 percent synthetic fiber-50 percent cotton for a cool, comfortable fit. Custom printing on back is available on request. Machine washable.	Team	S–XL	$12.95
10-2	MOTO-X FOX DOUBLE KNIT	Made of double-knit nylon with heavy-duty construction and padded elbows for increased protection. Machine washable.	Team	S–XL	$20.95
10-3	MOTO-X FOX VENTED NYLON	Perforated nylon design is the choice of Brad Lackey on warm days. Double-knit cuffs and collar with padded elbows. Machine washable.	Team	S–XL	$15.95
12-1	GRIFFS	A 50 percent cotton-50 percent polyester interlock material with an extra long back and wide shoulders to accommodate pads; slim at the hips. Machine washable.	Y/R, Y/Bl, W/R/Bl, Y/Bk	Youth M-L Adult S-XL	$19.95
13-1	TORSTEN HALLMAN NYLON MESH	Hallman's "air conditioned" jerseys feature construction of tough nylon with rolled knit cuffs and collar.	Team	S–XL	$18.95
13-2	TORSTEN HALLMAN INTER-AM	Quality jerseys made of a special cotton-rayon blend for cool comfort and durability with extra length for tucking in.	Team Combos	S–XL	$14.95–$19.95
13-3	TORSTEN HALLMAN TURTLENECK	A great cotton-polyester blend jersey with a stylish and functional turtleneck design for added protection from flying rubble.	Y, B, R	S–XL	$13.95
13-4	TORSTEN HALLMAN TEAM RACING	A distinctively styled cotton-polyester blend jersey emblazoned with the Hallman Racing name and logo across the chest with logo only on arms.	Bl/W	S–XL	$14.95
16-1	HI-POINT	A comfortable 50 percent cotton-50 percent polyester blend constructed with individual colors of fabric sewn together, knit cuffs and collar.	Team	S–XL	$18.95
17-1	HI-Q PRODUCTS	Made of 100 percent nylon mesh material with your choice of two lines of custom lettering across the back. Machine washable.	Bk, W, R, G, Gd	S–XL	$12.99
18-1	HONDALINE TEAM VENTED	Made of a 100 percent nylon-vented, two-way stretch fabric with padded elbows, ribbed knit collar and cuffs. Machine washable.	Team & R/W/Bl	Adult	$17.95
18-2	HONDALINE TEAM LIGHTWEIGHT	A 50 percent cotton-50 percent polyester blend two-way stretch fabric with padded elbows, ribbed knit collar and cuffs. Machine washable.	Team & R/W/Bl	XS–Youth S–XL	$11.95 $14.95
19-1	HUSKY PRODUCTS VENTED NYLON	100 percent nylon racing jersey emblazoned with the Husky logo, yellow chest with blue sleeves; perforated for warm weather comfort.	Y/Bl	S–XL	$14.50
19-2	HUSKY PRODUCTS TEAM KNIT	A Swedish-made jersey of a special cotton-rayon blend for comfort and durability; Husky logo flocked on front and rear.	Bl/Y	XXS–XL	$21.95
20-1	JT RACING WFO	Brilliant fade- and shrink-resistant cotton-polyester blend jerseys in a wide selection of colors and combinations.	R, W, Y, Bl, Bk	Youth Adult	$17.45–$22.50
20-2	JT RACING SUPERCROSS	A lightweight, cool and comfortable jersey of 100 percent cotton, which is available, like all JT jerseys, with custom lettering and numbers.	R, Bl, Y	Youth Adult	$12.75–$17.95
20-3	JT RACING TEAM	Bold JT graphics displaying your machine brand across the chest and down both sleeves. A cotton/polyester blend.	Team Combos	Youth Adult	$17.95
22-1	KAWASAKI NYLON MESH	Official Kawasaki colors in a vented nylon mesh to let cool air in and body heat out. Shoulder and elbow panels are double-reinforced for long wear.	G/W G/Bk	Youth Adult	$11.95 $14.95
22-2	KAWASAKI OFFICIAL TEAM KNIT	Constructed of 100 percent nylon with double lock-stitched seams to prevent ripout; one-way stretch fabric, double reinforced shoulder and elbow panels.	G/W	Adult	$17.95
22-3	KAWASAKI DELUXE TEAM KNIT	Kawasaki's finest model with new graphic design in Kawasaki racing colors; knit construction of nylon and cotton for a comfortable fit.	W/G/Bl W/G/Bl	Youth Adult	$17.95 $22.95



7-1

7-2

10-1

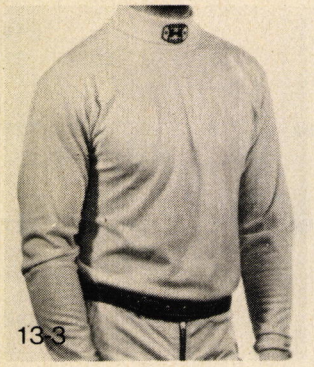


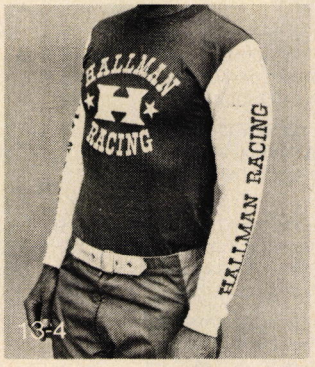
10-2

10-3

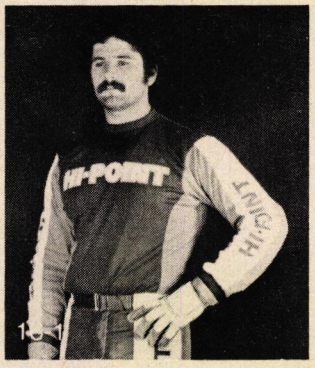
12-1

13-2

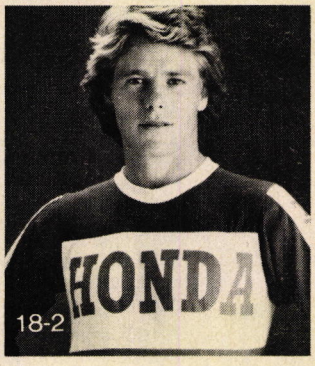

13-3



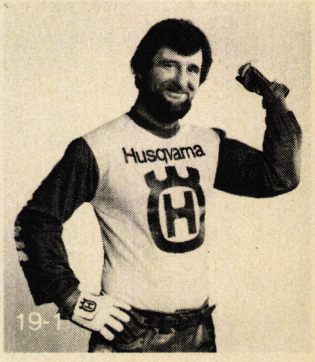
13-4



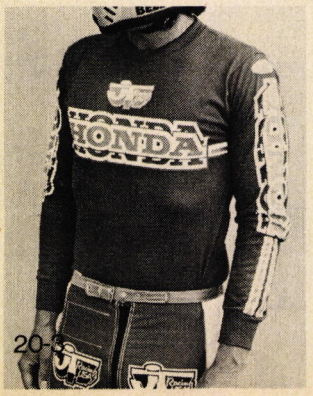
13-1



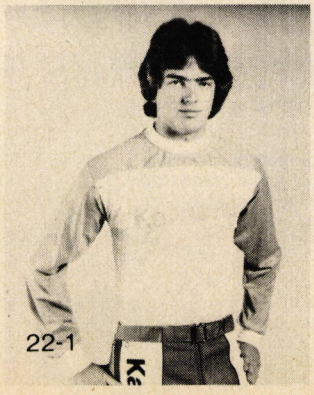
18-2



19-1



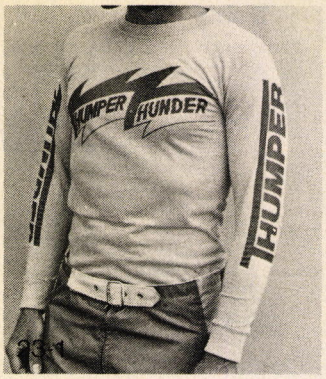
20-3

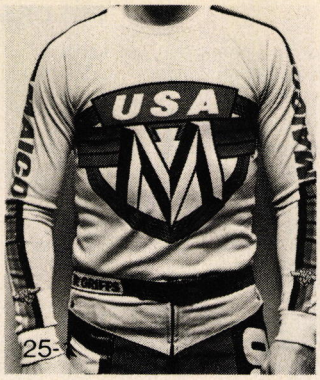

22-1

22-2

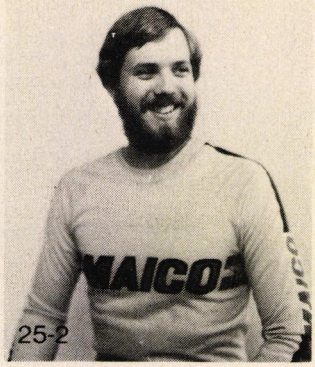
22-3

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
23-1	KNOBBY SHOP INT.	Lightweight, cool and comfortable 50 percent cotton-50 percent polyester blend with unique Thumper Thunder graphics.	Y/R	S–XL	**$10.95**
25-1	MAICO TEAM	A durable, cotton-polyester blend that's shrink-resistant, fade-proof and designed to match the new Maico-Griffs superstar pants.	Y/R/Bk/O	S–XL	**$19.95**
25-2	MAICO TEAM	A cotton-polyester blend that's shrink-resistant, fade-proof and that matches the new Maico-Griffs superstar pants.	Y/R/Bk/O	S–XL	**$19.95**
25-3	MAICO TEAM	Made of a cotton-polyester blend that's shrink-resistant, fade-proof, with graphics that match the new Maico-Griffs superstar pants.	Y/R/Bk/O	S–XL	**$19.95**
28-1	O'NEAL TEAM	Made of a 50 percent cotton-50 percent polyester interlock weave for cool comfort; tough and durable. Available in special O'Neal graphics.	Team	S–XL	**$15.95**
34-1	MALCOLM SMITH GOLD MEDAL	A large assortment of styles and colors of vented 100 percent nylon jerseys that feature rolled knit cuffs and collar. Machine washable.	Team & Plain	Youth Adult	**$13.95** **$14.95**
34-2	MALCOLM SMITH TEAM MODEL	A lightweight 100 percent cotton jersey with special Team Malcolm Smith graphics on front and arms; machine washable.	Y/Bl/Bk	S–XL	**$12.95**
34-3	MALCOLM SMITH TOUGHNECK	A new turtleneck jersey of thick knit 50 percent cotton-50 percent polyester for warmth and added abrasion protection, with bright color-fast transfers.	Team	S–XL	**$19.95**
34-4	MALCOLM SMITH MEDALIST	Made of a 50 percent cotton-50 percent polyester blend to allow for better absorbency and breathability while retaining a no-iron feature.	Team	S–XL	**$17.95**
35-1	GOLD BELT PLAIN	Luxurious 67 percent long-fiber Egyptian cotton-33 percent rayon loomed, died, woven and crafted in the northern part of Spain. Sleeves and body cut extra long.	Bl, Y, Bk, R, Solids	S–XL	**$16.95**
35-2	GOLD BELT STRIPED	The same 67 percent cotton-33 percent rayon blend with contrasting colored stripes sewn into the jersey as an integral part of the design.	Bl/Y, Y/Bk, R/W/Bl	S–XL	**$23.95**
35-3	GOLD BELT STRIPED AND PADDED	An identical 67 percent cotton-33 percent rayon blend material with contrasting colored stripes sewn into the sleeves and thick padding sewn into the shoulders.	Bl/Y, Y/Bk, R/W/Bl	S–XL	**$27.95**
37-1	SUZUKI TEAM NYLON MESH	Sturdy 100 percent nylon mesh material for strength and cool comfort with rolled knit cuffs and collar and padded elbows. Machine washable.	Y/Bk/Bl	XS–XL	**$14.95**
37-2	SUZUKI TEAM SOLID KNIT	A comfortable 50 percent cotton-50 percent polyester blend factory team replica model cut long enough to tuck into your leathers after many washings.	Y/Bl	S–XL	**$19.45**
38-1	TRAC-PRO	A cotton-nylon blend composition, with cotton for comfort and perspiration absorbency, nylon for strength and ease of cleaning. Machine washable.	Bl/W	S–XL	**$18.95**
41-1	BILL WALTERS NYLON VENTED	A 100 percent nylon perforated mesh fabric available in solid, striped and team color combinations as well as specially requested designs.	Team & Requests	Youth Adult	**$12.95** **$13.95**
41-2	BILL WALTERS DOUBLE KNIT	A 100 percent nylon double-knit fabric available in solid, striped and team color combinations as well as specially requested designs.	Team & Requests	Youth Adult	**$15.95** **$17.95**
43-1	YAMAHA MX	Made of tear-resistant perforated nylon with heavy-duty stitching and padded elbows, available plain or with Yamaha logo styling. Machine washable.	R, Y, Bl	Youth Adult	**$14.50** **$15.95**
43-2	YAMAHA SUPER	A 50 percent cotton-50 percent polyester interlock for good looks and a comfortable fit; padded elbows. Machine washable and dryable.	Bl, Y	S–XL	**$19.95**



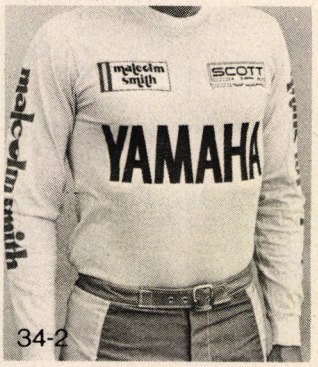


25-2



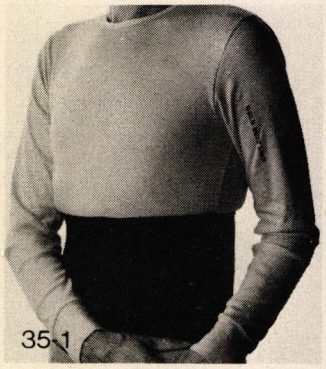
25-3

28-1

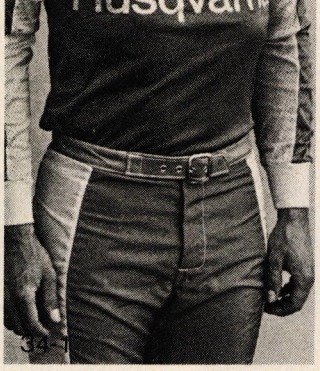


34-2

34-3

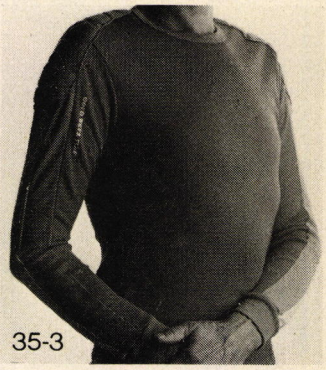


35-1



34-1

35-2



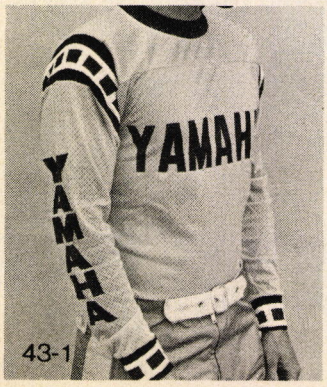
35-3

37-1

37-2

38-1

41-1

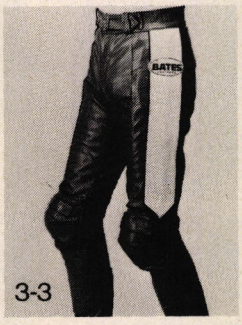


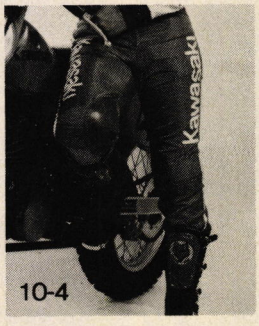
43-1

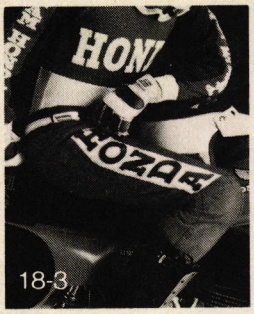
43-2

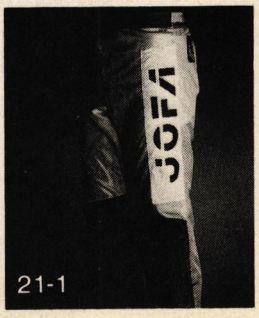
PANTS

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
3-1	BATES ALL NYLON	Made of 100 percent color-fast, heavy-duty, water-repellant nylon with leather reinforced knees and leather bead waistband.	Various Combos.	22–26 28–38	**$70.00–$80.00**
3-2	BATES NYLON-LEATHER	A combination of heavy-duty nylon with special two-ounce "Pro-weight" motocross leather used in seat, inside of legs, knee cups and crotch area.	Various Combos.	22–26 28–38	**$120.00–$130.00**
3-3	BATES ALL LEATHER	Constructed of top grain two-ounce motocross leather throughout. All Bates pants are available in either American or GP styling and team designs.	Various Combos.	22–26 28–38	**$155.00–$165.00**
10-4	MOTO-X FOX SUPERFOX	Constructed of heavy-duty nylon fabric outside with lightweight nylon liner inside, leather on knees, slip-in plastic guards and spandex side seams.	Team	26–38	**$100.00**
11-1	GSM NYLON GP	Made of nylon, with energy-absorbing high-density polyethylene knee cups, adjustable half-belt and thickly padded hip areas.	Bl/Y, R/Bk, Bk/Y	22–38	**$57.95**
12-2	GRIFFS MX	Made of Barrier cloth—five times more resistant to abrasion than leather, heat-resistant to 800 degrees; spandex panels, with removable knee and hip pads.	Y/R, Y/Bk, R/Bl, Y/Bl	Youth S–L Adult XXS–L	**$94.95**
12-3	GRIFFS SUPERSTARS	The same comfortable and durable qualities of Griffs regular MX pants, with hinged knee-shin guards and unique integral stretch-stirrup bottoms.	Y/R, Y/Bk, R/Bl, Y/Bl	Youth S–L Adult XXS–L	**$120.00**
13-5	TORSTEN HALLMAN ALL NYLON	Sturdily constructed of top-grade, heavy-duty nylon with elastic side panels to assure long life; knee-shin guards and elastic stirrup cuffs.	Team	S–XL Youth	**$81.50 $69.15**
13-6	TORSTEN HALLMAN PRO GP	A nylon-leather combination designed in '79 by Roger De Coster with sock-type lower leg and elastic strap; brand or brandless.	Team	28–42	**$109.00**
16-2	HI-POINT NYLON MX	Constructed of heavy-duty nylon with wrap-around dual-density polyurethane knee cups, hip padding and special sewn-in padding in shin area; fully lined.	Team & Custom	30–36	**$92.00**









NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
16-3	HI-POINT NYLON/LEATHER	A combination of the same heavy-duty nylon with leather added to knees and seat area. Custom name and color combinations available on request.	Team & Custom	30–36	$122.00
17-2	HI-Q PRODUCTS	Fully padded, heavy-duty nylon MX pants with hip pocket and zippered leg closures. Available with or without name on back.	Bl/R, Gd/Bk	28–40	$29.99–$49.99
18-3	HONDALINE PRO HONDA	Made of rugged Cordura nylon with reinforced leather inner knee guards, nylon mesh interior lining, high-density hip pads and Jofa knee-shin guards.	Team R/W/Bl	26–36	$109.95
19-3	HUSKY PRODUCTS NYLON-LEATHER	Lightweight, water-repellent nylon with two-ounce leather in the seat, inside legs, knees, front and crotch areas; Velcro leg closures, fully lined.	Bl/Y	28–38	$123.00
19-4	HUSKY PRODUCTS NYLON MX	Made in USA from 100 percent color-fast, lightweight, water-repellent nylon with double-density foam knee cups, removable foam hip pads; fully lined.	Bl/Y	28–38	$93.29
20-4	JT RACING UNLEATHERS	A combination of 400 denier pack cloth and Finnish leather with a custom stretch side panel, hinged knee-shin guards.	Team	Youth Adult	$89.50 $126.75
21-1	JOFA	Rugged, lightweight protection made of 1000 Denier nylon cloth with Velcro closures on legs, molded plastic knee caps and built-in washable hip pads.	Team	Youth Adult	NA
22-4	KAWASAKI-GRIFFS NYLON MX	Worn by top MX racers, constructed of durable barrier cloth, which is five times more abrasion-resistant than leather; slip-in knee-shin guards.	Bl/G Bl/G	Youth Adult	$85.95 $99.95
24-1	LANCER NYLON-LEATHER	Made of heavy-duty nylon and top grain leather with sewn-in hip pads, plastic knee guards, zippered leg closures and half-belt.	Team & Combos.	Youth Adult	$99.50 $129.50
24-2	LANCER LEATHERS	Made entirely of top grain leather with sewn-in hip pads, plastic knee guards and zippered leg closures in a wide variety of colors.	Team & Combos.	Youth Adult	$159.95

THE "DRIFTER" BY FRYE

The "Drifter" looks like part of the action. Its for scrambling through a Pueblo ruin or roaring up an old logging road or heading up the Alcan to bigger things. This boot has more character per square inch of tough-and-comfortable cowhide than you've ever worn, seen or heard of. Even brand new it looks like its been fightin' for days in dusty claypits. Its dull gray, weather-worn finish is called "Colorado Clay". A look as rough as cactus but alive with understated elegance. The "Drifter" is 14" high, made of chrome excel natural cowhide, fully leather lined for daylong comfort. Heavy harness strap with brass hardware, inside pull straps, Dupont hypalon oil-resistant sole and neolite heel. Sizes are 7-12 D (medium) and EE (wide). Price is $112.00 including postage and handling. Satisfaction guaranteed or your money back.

CREDIT CARD BUYERS: To Order Call TOLL FREE 24 HOURS A DAY

1-800-824-7888

and ask for operator 893. In California call 1-800-852-7777

Use our toll free number for quickest service or use order form below if you prefer.

CRAWFORD HOUSE, INC.

Dept. D-6, P.O. Box 468, Brockton, Mass. 02403

No. Pairs ____ Size ____ Width ____

I enclose $ ____ ☐ Check ☐ Money Order

Or, charge my ☐ VISA ☐ Master Charge ☐ AMEX

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Bank No. (M/C) ☐☐☐☐ Exp. Date ☐☐☐☐

Name ____

Address ____

City, State, Zip ____

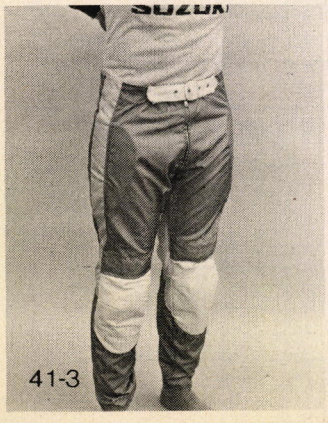
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
25-6	MAICO-GRIFFS SUPERSTARS	Made of 1000 Denier nylon with Ensolite hip and knee pads, plastic knee-shin guards with stretch side and crotch panels for comfort and durability.	R/Y/Bk	XS–XL	**$125.00**
28-2	O'NEAL ULTRALITE MX	Sturdy nylon front and back with leather inner knee sections, hinged knee-shin guards, stretch side bands.	Team	—	**$69.95**
34-5	MALCOLM SMITH ALL NYLON	Made of durable nylon with snap-in hip pads, felt-backed knee-shin guards, one inside pocket, full inner lining, Velcro spandex fasteners at the calf.	Team	26–40	**$74.95**
34-6	MALCOLM SMITH NYLON TEAM	Identical in construction to the nylon pants above but with brand names sewn onto the side stripe in either horizontal or stacked fashion.	Team	28–36	**$84.95**
34-7	MALCOLM SMITH NYLON-LEATHER	Similar in construction to nylon pants, but with leather on knees and seat for improved bike grip. Custom lettering services available on request.	Team	26–40	**$99.95**
38-2	TRAC-PRO TYPE 11 MX	Made of Cordura nylon in team-coordinated colors with leather-reinforced inside knee areas, Jofa knee-shin guards and Velcro leg closures.	Bl/Y, R/W/Bl, Bl/Y, R/Bk/Y	28–36	**$93.95**
41-3	BILL WALTERS PRO NYLON-LEATHER	Made of top grade three-ounce cowhide and heavy-duty waterproof nylon with stretch spandex inside panels, sewn-in hip pads and removable knee-shin guards.	Bl, R, Bk, Y W, O, Combos.	Youth 24–26 Adult 28–36	**$80.00 $110.00**
41-4	BILL WALTERS PRO GP ALL LEATHER	Top grade three-ounce cowhide with plastic knee caps backed with heavy felt for impact absorption. Zippered leg closures and sewn-in hip pads.	Bl, R, Bk, Y W, O, Combos.	Youth 24–26 Adult 28–36	**$99.95 $129.95**
41-5	BILL WALTERS ALL NYLON	Constructed of heavy-duty waterproof nylon with spandex stretch inseams for a long-lasting, comfortable fit.	Bl, R, Bk, Y W, O, Combos.	Youth 24–26 Adult 28–36	**$64.95 $69.95**
43-3	YAMAHA MX LEATHERS	Maximum protection with all-leather construction, flexible crotch, easy-out knee-shin protectors, lower leg zippers and hip padding.	Y/W/Bk	—	**$119.95**
43-4	YAMAHA NYLON CORDURA	Cool and comfortable Cordura nylon combination with built-in belt, knee-shin protectors, removable knee cups. Machine washable.	Bk/Y	—	**$74.95**

25-6

28-2

34-7

38-2


41-3

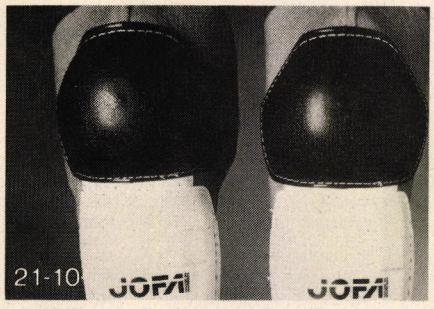
43-3

43-4

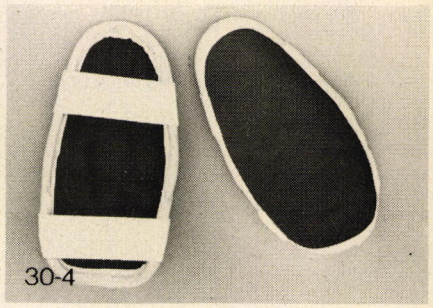
ELBOW GUARDS

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
16-14	HI-POINT	Made with a tough nylon outer covering, special impact-absorbing padding, sewn-in plastic cups and elastic bands for easy removal.	Bk	Youth Adult	**$12.40** **$14.00**
21-10	JOFA	Lightweight elbow pads with molded plastic caps, durable exterior and comfortable cotton interior; elastic bands for snug fit.	R/W R/W	Jr. Sr.	**NA** **NA**
30-4	RISTER IND.	High-density impact-absorbing foam combined with plastic discs to soften blows to the elbows. Lined with tricot.	R/W, Y/W	—	**$13.95**
34-20	MALCOLM SMITH	Impact-absorbing padding with high-impact plastic cups and elastic straps.	Bl/W	Youth Adult	**$9.00** **$12.60**

16-14

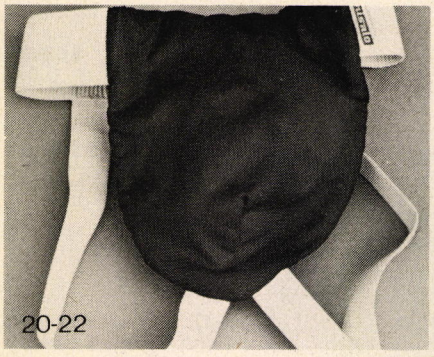


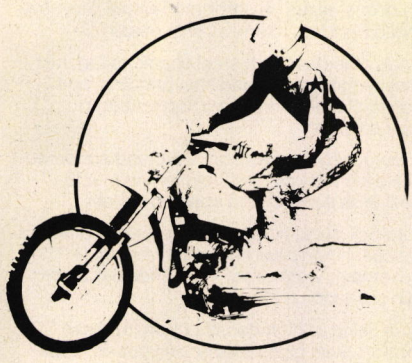
21-10


30-4

JOCKS

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
20-22	JT RACING	A fully padded firm polystyrene cup with extra wide straps to prevent slippage, covered with smooth red nylon material for comfort.	R/W	—	**$17.25**
35-8	GOLD BELT WINNERS	Sport briefs of 100 percent cotton as worn by Bob Hannah and Roger De Coster; moderate support with improved comfort. Specially cut design.	R, Bn, Tn, Bl, L-Bl	S, M, L	**$4.95**

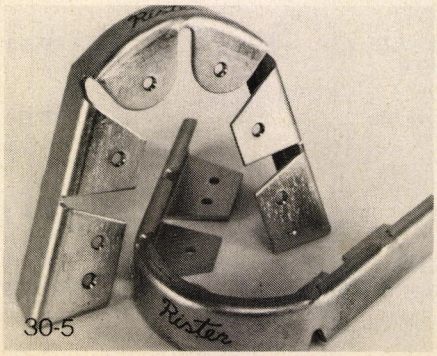

20-22



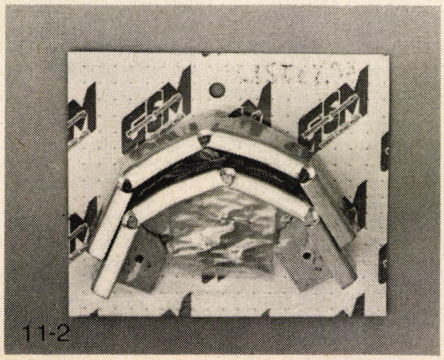
35-8

TOE GUARDS

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
30-5	RISTER IND.	Made of zinc-plated 15-gauge steel to protect toe and sole from separating; installs in minutes and comes complete with mounting screws.	Zinc	—	**$5.95**
11-2	GSM	All-aluminum wrap-around design helps prevent damage to front of boot and sole in toe-dragging slides and when hitting rocks.	Al	—	**$7.95**



30-5



11-2

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
9-1	ESPRIT KIDS' MX	Designed for children, with reinforced heel and toe, ankle and heel padding, padded shin guard, waterproof cuff and four speed buckles.	Bk/R	1–5	$89.95
9-2	ESPRIT RACING	Fiberglass-reinforced heel and toe with steel-shank-reinforced instep for greater support, speed buckles, padded ankles, smooth or cleated sole.	Bk/R	6–13	$109.95
9-3	ESPRIT PROFESSIONAL	Covered lace-up design with Velcro fasteners, steel-shank instep, double padded shin and ankles, fiberglass-reinforced heel and toe, MX or enduro sole.	Bk/Tn	5–13	$149.95
10-5	MOTO-X FOX	Hand-crafted leather construction with seamless outer surface, padded shin and ankle, steel arch support, new positive buckle design, MX or enduro soles.	Bk/R	—	$89.95
10-12	SIDI PROFESSIONAL	High energy-absorbent front flap permanently molded in, improved buckle system, internal ankle pad, steel scuff plate and soft leather inner liner.	Bk, R & Bl/Y	5–14	$127.00
10-13	FULL BORE TROPHY SERIES	Leather design available in either MX or ISDT styles with latex foam padding, double thickness on front and shift pad, 14-inch height.	Bk	5–12	$105.00
10-14	FULL BORE PROFESSIONAL	Lighter than Full Bore's GP boots, with steel scuff plates, unique impact-absorbent front flap design and steel arch support.	Bk/Bl	5–14	$127.00
13-7	TORSTEN HALLMAN MX & ENDURO SOLE	Designed by Brad Lackey and Alpine Star to provide superb protection with steel sole support and toe, padded shins and ankles and quick buckles.	Bk/Bl/R	Youth 4–6 Adult 6½–13	$92.70 $124.35
16-4	HI-POINT MX & ENDURO	A popular boot featuring ankle padding, steel arch shank, quick-fasten buckles, stainless steel shin guard with padding and top grain leather.	Bk	5–14	$119.95 $119.95
16-5	HI-POINT MINI MX	A version of the regular HI-POINT boot in childrens' sizes, in smooth MX sole only; five speed buckles, stainless shin guard.	Bk	1–7	$89.95
18-4	HONDALINE PRO-HONDA	Made of leather with steel shank instep, high-density foam ankle and shin padding, and Honda's exclusive Velcro flap and quick buckle system.	Bk/R	7–13	$82.95
20-5	JT RACING MIKKOLA	A top-quality leather boot used and endorsed by Heikki Mikkola; soft leather inner sole, steel arch support and speed buckles.	Bk, Bl, R	—	$142.95
21-2	JOFA-M. ROBERT	Autolock buckling system prevents premature release, hinge design permits free ankle movement, waterproof inner liner and built-in shin protector.	R	—	NA
22-5	KAWASAKI SUPERSTARS	Inner lining of high-density foam for plush comfort, with high-density shin guard, ankle protection, quick-release buckles; MX or enduro soles.	Bk/W Bk/W	MX 6–13 End 7–12	$144.95 $144.95
23-2	KNOBBY SHOP INT. DUNLOP TRIALS	Designed with finned-rubber protection for shins and ankles, steel arch support; the number-one trials boot in the world.	Bk	7–12	$37.50
26-1	MXL 2000 MX 2100 ENDURO	Made of high-impact polyurethane with Quik-Loc buckles. Anatomically designed inner liner is machine washable and dryable.	R–MX Bl–End	7–13 7–13	$139.95 $149.95
28-3	O'NEAL MX	Flexible polyurethane outer shell with precision brass hinges, extremely dense foam inner liner with nylon sole and waterproof stocking.	R, Bk	—	$104.95
28-4	O'NEAL-DAYTONA	Designed for maximum protection and comfort, with soft pigskin top, fully padded front and vulcanized sole for durability.	Bk/Y, Bl/Y, Bk/R	8–13	$119.95
32-1	SCOTT	High impact-resistant shin guard and shell material with special floating hinge design to allow natural foot movement, maximum comfort and protection.	R/Bl/Bk	7–13	$195.00
34-8	MALCOLM SMITH GOLD MEDAL	Constructed of flexible top grade cowhide with soft, foam rubber padding around shins and ankles; hard rubber MX or enduro soles.	Bk/Tn/Bl	4–14	NA
34-9	MALCOLM SMITH CHILDREN'S MX	A scaled-down copy of the adult boot with five buckles instead of six and the same craftsmanship throughout.	Bk/Tn/Bl	3–5½	$89.95

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
43-5	YAMAHA MX	Inner liner of high-density foam fits contour of foot; leather construction, polyurethane shinguards with rubber composite soles.	Bk / Y	—	**$119.95**

9-1

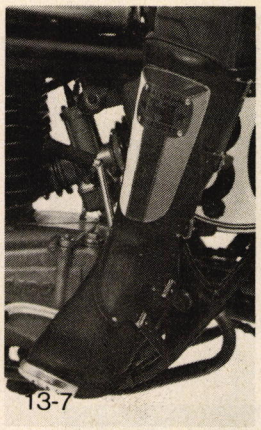
9-2

9-3

10-12

10-13

10-14

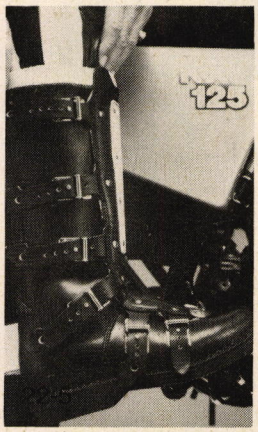

13-7

10-5

16-4

16-1

20-5



22-5

23-2

26-1
2000 MX

2100 Enduro

28-3

28-4

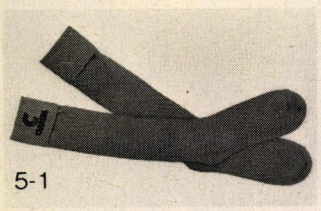
32-1

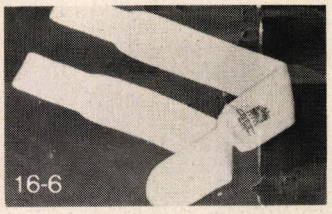
34-8

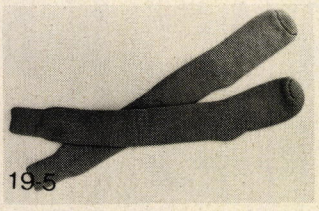
43-5

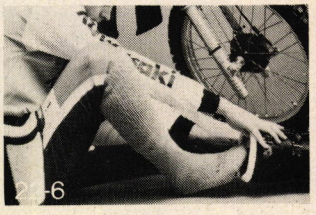
SOCKS

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
5-1	CARRERA	A full-length MX sock made of 75 percent orlon acrylic-25 percent stretch nylon.	R, W, Y, Bl	—	$6.80
13-8	TORSTEN HALLMAN ONE PACK SOX	Comfortable 80 percent orlon acrylic-20 percent stretch nylon for great moisture absorbency.	R, Y, Bl	—	$4.50
16-6	HI-POINT	Quality knee-length socks made of 80 percent orlon acrylic-20 percent nylon.	O, Bl, R Y, G	Youth Adult	$4.60 $4.60
19-5	HUSKY PRODUCTS	Made from orlon and nylon for comfort and durability; will not shrink or fade. All Husky products are used and endorsed by Dick Burleson.	Y, Bl, R	10–13	$5.30
20-6	JT RACING UNDER SOCK	Thick brushed orlon-nylon blend sock is over-the-calf height with plenty of elastic.	W	—	$2.95
22-6	KAWASAKI TUBE STYLE	Full-length lime green socks fit all sizes; heavy and absorbent fabric for maximum cushion and comfort.	G	—	$4.95
28-5	O'NEAL	A blend of 88 percent orlon acrylic-12 percent stretch rayon for cushion and comfort; machine washable and dryable.	G, R, Bl	Youth Adult	$4.95 $4.95
34-10	MALCOLM SMITH GOLD MEDAL	Thick, tall socks of 80 percent orlon-20 percent stretch nylon for cushion and temperature comfort won't shrink, fade or lose their elasticity.	Bl, R, Y	6–13	$4.95
40-1	VAN LEEUWEN-AM-PRO SUPERSOX	Constructed of 80 percent orlon acrylic-20 percent stretch rayon in a tubular design; machine washable and dryable terry cloth.	Team	9–13	$4.95
43-6	YAMAHA	Fluffy-soft terry cloth keeps your feet cozy; built-in cushion sole, non-fading, machine washable.	R, Y, Bl	—	$4.95

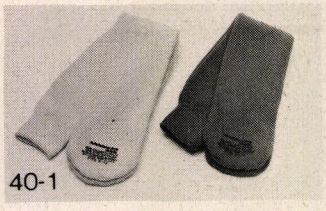

5-1

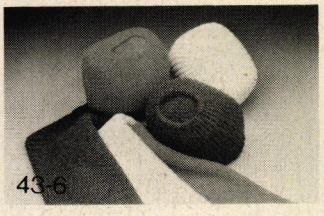

16-6


19-5


22-6

28-5

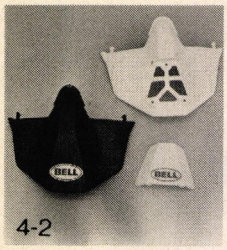

40-1


43-6

FACE MASKS

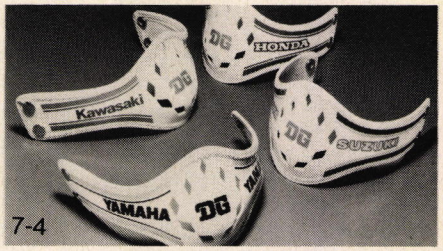
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
4-2	BELL	Ventilated through covered air vent. Three-way air flow design offers protection from flying projectiles.	W/Bk		$7.95
5-5	CARRERA 5917 TURBO	A high-impact plastic mask that attaches easily to either the Phantom or the Power goggle.	R, Y, W, Bk	—	$8.50
7-4	DG-KOHO	Classic early Finnish styling with vent holes; snap-on high-impact plastic with snaps included.	—	—	$9.00
13-18	TORSTEN HALLMAN-FILTRON FOAM MASK	Light, comfortable and inexpensive; protects nose and mouth from grit and grime. Helps seal out dust, too.	R	—	$.70
15-1	HELMET HOUSE HUSTLER	Nostalgic early days design made of lightweight but rugged high-impact plastic. Mounts quickly to any helmet.	Gy	—	$2.95
18-9	HONDALINE	A high-impact plastic guard that snaps onto Hondaline goggles. Ventilation holes are protected from dirt by snap-on shield.	W/R/Bl	—	$7.95
20-17	JT RACING	A new streamlined and vented mouthguard made of high-impact plastic that snaps on in seconds or can be permanently mounted.	W/R/Bl	—	$8.95
20-18	JT RACING MIKKOLA	A flexible, shatter-resistant rockguard complete with a vinyl protective ribbing to cover all sharp edges.	W/R/Bl	—	$9.95

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
20-19	JT RACING JT-OAKLEY	A new goggle-attached mask that provides plenty of breathing room with maximum air flow; high-impact plastic.	R, Y, Bl, W	—	**$8.95**
21-4	JOFA 889	Constructed of high-impact plastic, with rubber padding for a snug fit.	R, W, Bl, G, Y	—	**NA**
22-10	KAWASAKI SUPER FACE SAVER	Automatic venturi ventilation for easy breathing. Snaps onto Kawasaki goggles.	Bl, W	—	**$7.95**
22-11	KAWASAKI-JOFA	Tough plastic mouth protection from flying rocks and debris; snaps to helmet with included hardware.	W	—	**$6.75**
27-2	OAKLEY	A new goggle-attached mask that gives plenty of room between goggle and face to allow maximum air flow; made of high-impact plastic.	R, Y, Bl, W	—	**$8.95**
28-6	O'NEAL	Fabricated from shatter-resistant plastic. Contour design for maximum protection without hindering visibility; snaps and screws included.	R, Bl, Y	—	**$8.95**
32-3	SCOTT USA	The original goggle-face mask combination. Provides protection from flying debris.	R, Y, Bl, O, W	—	**$6.95**
34-17	MALCOLM SMITH FACE MASK	A high-impact plastic face guard with foam breather slot insert that quickly attaches securely to Malcolm's Gold Medal goggles.	R, W, Bl, Y	—	**$7.95**
34-18	MALCOLM SMITH MASQUE	A unique new mask designed for cold-weather riding, made of "wet suit" material for warmth and comfort; fits in pocket, reversible. Velcro fastener.	R/Bk, Bl/Y	—	**$9.95**
36-3	SUPER SEER SUPER MASK	Automatically ventilated with covered air vent. Three-way air flow design offers protection from flying projectiles.	W/Bk	—	**$7.95**
42-1	WHEELSPORT IRON JAW	A surprisingly strong face guard that can be removed or adjusted in seconds; made of high-impact plastic, mounts included.	R, Bk, O, Bl, Y, W	—	**$6.95**

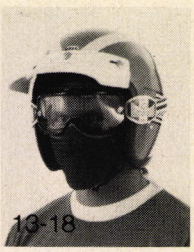


4-2

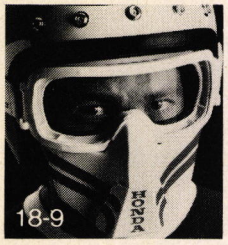
5-5



7-4

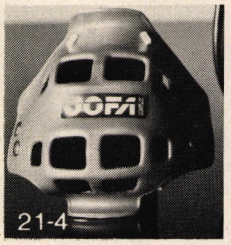

13-18

15-1



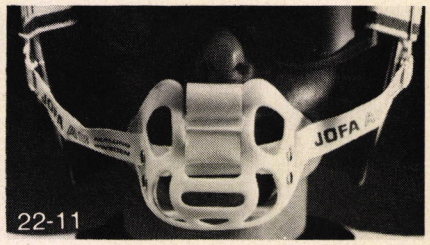
18-9

20-1.



21-4

22-10



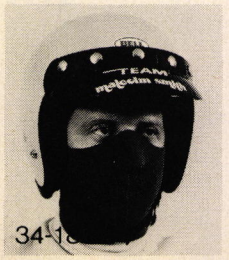
22-11

27-2

28-6

32-3

34-17

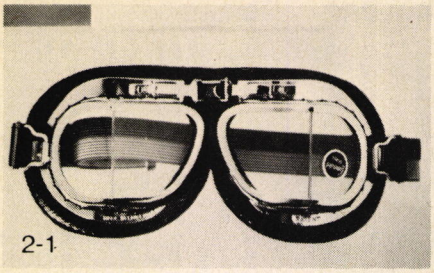


34-18

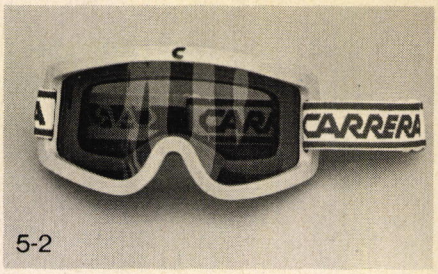
36-3

42-1

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
2-1	STADIUM-BARMED MARK 4	Silver Cross model features facial comfort, with leather from Continental mountain sheep; laminated safety glass lenses.	Bk/Ch	—	$34.95
4-1	BELL 550	Foam face cushion, foam-wrapped ventilation, lever-action strap bracket, full 1¼-inch headband for snug fit.	Bk/W/R		$14.95
5-2	CARRERA 5017 FIREBIRD	A single-lens motocross goggle with Carrera's standard gold-green lens, soft foam face seal, adjustable elastic strap and foam-covered air vents.	R, W, Bl, Bk	—	$22.10
5-3	CARRERA 5018 POWER MODEL	Power model features a contoured frame, soft foam face seal, adjustable elastic strap and foam-covered air vents.	R, W, Bl, Y, Bk	—	$20.95
5-4	CARRERA 5098-GT	This new model features "hypersoft" foam face seal, excellent peripheral vision, efficient venting system and an extra-wide band.	R, W, Bl, Bk	—	$14.75–$25.50
6-1	CASTRE	A new goggle featuring wide headband, soft foam face seal, replaceable clear lens and foam-covered air vents.	Bl	—	$11.95
10-9	MOTO-X FOX	This soft rubber body conforms easily to your face shape, and is padded with soft foam, vented to resist fogging. Various lenses available.	Team	Youth Adult	$6.75 $14.50
16-15	BARUFFALDI STD. & ROGER DE COSTER	Special features include an anti-fog lens, contour-fitting frame, facemask and chamois face liner.	Bk, Bl, R, W	—	$25.50
18-7	HONDALINE PRO-HONDA	A soft molded rubber frame with thick face foam seal for comfort, wide striped elastic band; clear or polarized lenses available.	W/R/Bl	Youth Adult	$7.50 $13.75
18-8	HONDALINE OPEN VENT	Same features as the Pro-Honda goggle, with open side vent construction for those who prefer maximum air flow around the eyes.	W/R/Bl	Adult	$13.95
20-10	JT RACING JT-OAKLEY	A "futuristic" goggle with excellent peripheral vision, Lexan lens, a wide elastic headband, foam-covered vents and a soft foam face seal.	R, Y, Bl	—	$13.95
22-9	KAWASAKI GP & DEEP FRAME GP	Offers maximum peripheral vision with soft foam face seal, foam air filters, optically polished lens, 1½-inch strap and deep frame to fit over glasses.	W/Bl	Reg Deep	$14.95
26-2	MXL X-70	Designed specifically for juniors and women, with positive ventilation and an economical price.	W, Bk, R Y, Bl	Youth Women	$11.25
26-3	MXL X 600	Designed for wide-angle visibility. Fits comfortably over most standard eyeglass frames. Accomodates MXL tear-offs.	W, Bk, R Y, Bl	—	$16.25
26-4	MXL X 700	A unique integral goggle and face mask design that allows plenty of room for nose, lips and chin and accommodates MXL tear-offs.	W, Bk, R Y, Bl	—	$17.25
26-5	MXL X 800	Top-of-the-line model with foam-filtered ram-air ventilation, soft foam face seal; accommodates MXL tear-offs.	W, Bk, R Y, Bl	—	$16.25
27-1	OAKLEY	A "futuristic" looking goggle with excellent peripheral vision, a wide elastic headband, Lexan lens, foam-covered air vents and a soft foam face seal.	R, Y, Bl	—	$13.95
29-1	PRO-TEC GARGOYLES	A lightweight, injection-molded lens-frame designed to distribute impact forces, guaranteed for life against shattering or breaking.	Am, Gy, Cl, Vr, Bz	—	$40.00
31-1	SALICE 965	Mini-sized goggle for younger riders, featuring a contoured frame design, adjustable strap, foam face seal and foam-covered air vents.	Bk	Youth	$7.25
31-2	SALICE 965D	A slightly larger version of the 965 designed for women and larger youths, with contoured frame and foam face seal for comfort.	Bk	Youth Women	$9.95
31-3	SALICE 968	Full-sized goggle designed for maximum peripheral vision, with foam face seal, adjustable elastic strap and clear lens.	Bk	Adult	$7.95
31-4	SALICE 971	An economically priced full-sized goggle featuring replaceable clear lens, adjustable elastic strap, foam face seal and foam-covered air vents.	Bk	Adult	$5.95


2-1

4-1



5-2

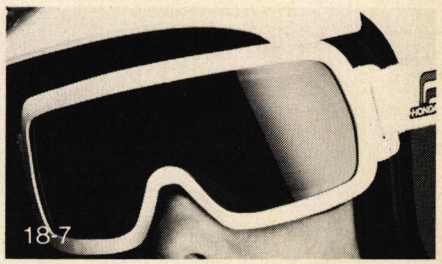
5-3

5-4

6-1

10-9

16-15


18-7

18-8

22-9

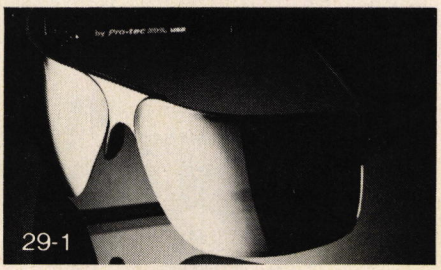
26-2

26-3

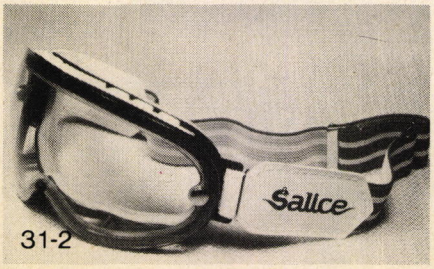
26-4

26-5

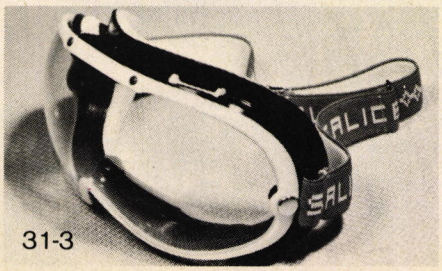
27-1


29-1

31-1



31-2



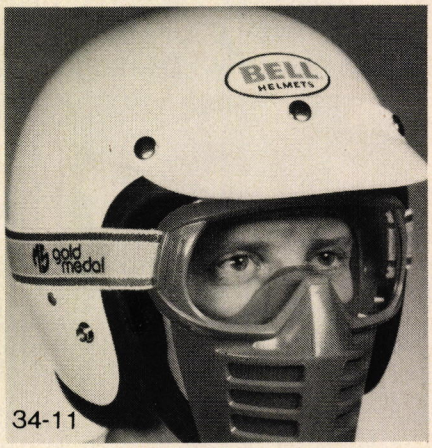
31-3

31-4

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
32-2	SCOTT MODEL 59	An extremely comfortable goggle featuring a scratch- and impact-resistant Lexan lens; gray and rose polarized lens, amber lens and tear-offs available.	R, Y	—	$17.95
33-1	SMITH SERIES 4	This "Basic Rose" model features a soft molded frame, thick foam face seal that conforms to contour of face for comfortable fit; rose, amber or clear.	Bl R	Junior Basic	$9.00 $10.00
34-11	MALCOLM SMITH GOLD MEDAL	A unique goggle designed to provide a high degree of comfort and eye protection, with thick foam face seal and wide elastic headband.	R, W, Bl, Y	—	$12.95–$17.95
36-1	SUPER SEER 503	Foam face cushion, foam-wrapped ventilation, lever-action strap bracket, full 1¼-inch headband; comes with extra lenses and detachable face mask.	Bk, W	—	$14.95
36-2	SUPER SEER 505	A maximum air flow design featuring a foam face cushion, lever-action strap bracket, 1¼-inch headband and extra lenses.	Bk, W	—	$14.95
39-1	UVEX GRAND PRIX	Grand Prix features include a flexible frame, cushioned velour face liner, adjustable air vents and adjustable band.	Bk/R		$26.75
39-2	UVEX WORLD CUPS/TS	World Cup features include a gold-green lens to enhance depth perception, foam-velour face seal; fits over glasses.	W		$13.75
39-3	UVEX RALLYE	The Rallye is similar to the GP in styling and design but is slotted and deeper to fit over prescription glasses.	Bk		$26.75
39-4	UVEX SPEED 500	An economy sport goggle with many of the features offered in more expensive competition models.	W/Bl		$7.00
43-9	YAMAHA STANDARD	Economically priced with modern-styled frame, extra-wide strap and foam face cushion for a comfortable fit.	Bk, W	—	$7.95
43-10	YAMAHA	A new design featuring open side vent frame ventilation for maximum air flow to reduce fogging, wide elastic headband with Yamaha name.	Bk, W	—	$13.50

32-2

33-1

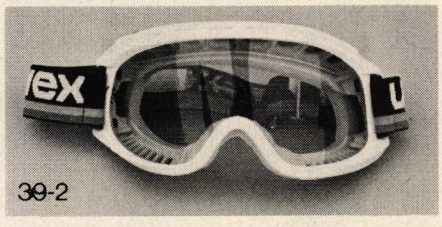


34-11

36-1

36-2

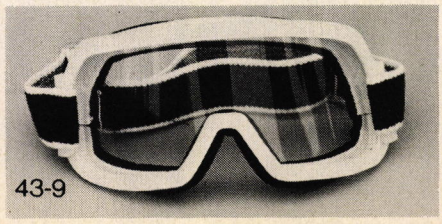
39-1

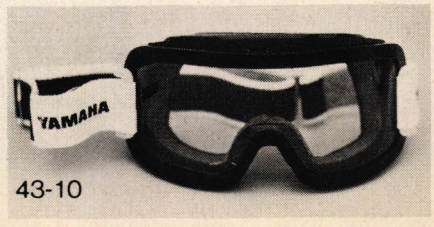


39-2

39-3

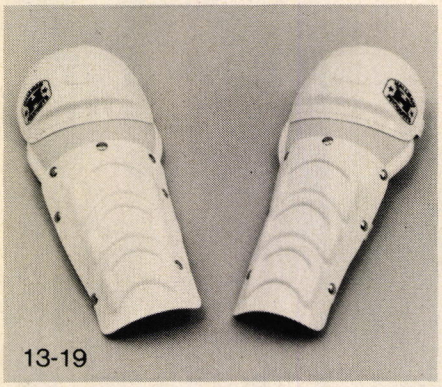
39-4

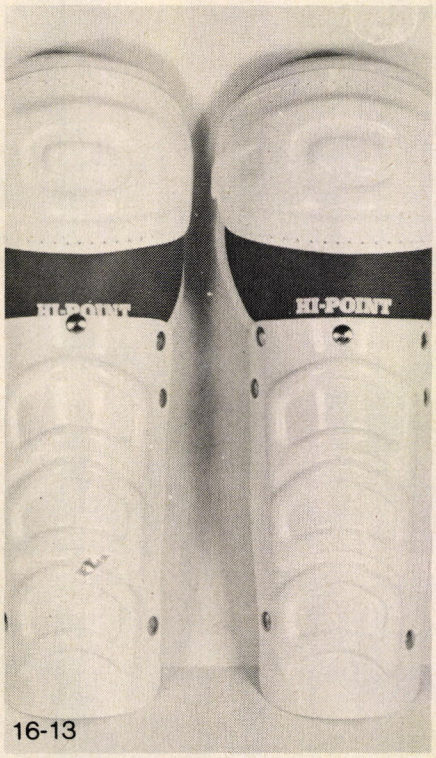

43-9



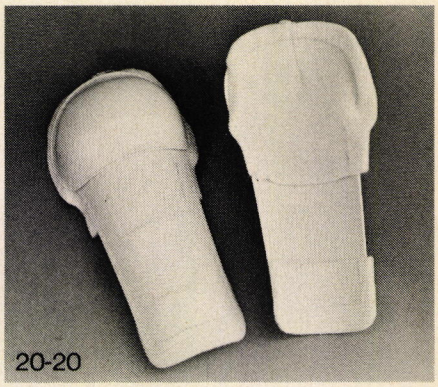
43-10

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
13-19	TORSTEN HALLMAN GP MODEL	Made of high-impact plastic backed with impact-absorbing foam padding covered in durable nylon. Adjustable straps provided.	W/O	—	**$24.55**
16-13	HI-POINT	Substantial knee and shin protection with molded plastic cups and guards, shock-absorbent padding with nylon covering; adjustable.	W/R	—	**$25.85**
20-20	JT RACING	Made with high-impact plastic knee cup and shin guard attached to heavy padding to absorb jolts.	W/R	—	**$16.95**
20-21	JT RACING SHORT STACK	Designed specifically for use with Scott boots; same protective quality as regular length guards	W/Bl		**$13.25**
21-9	JOFA	Shin and knee protectors made of high-impact molded plastic, backed with layers of soft, shock-absorbent felt at vital points.	W/Bk/O	10″, 12″, 13″	**NA**
30-3	RISTER IND.	Quality high-impact plastic knee and shin guards, backed with impact absorbing foam behind knee cups; fully adjustable.	W/R, W/Y	—	**$21.95**
34-19	MALCOLM SMITH	A combination knee and shin guard of high-impact plastic, backed with special impact-absorbent padding encased in nylon.	W/Bl	Adult	**$23.60**
34-20	MALCOLM SMITH KNEE ONLY	Molded of high-impact plastic with special impact-absorbing padding and adjustable, form-fitting elastic straps.	W/Bl	Youth Adult	**$13.45** **$15.25**
43-13	YAMAHA	Dual-density poly foam molded into a single lightweight and comfortable impact-absorbent pad.	W	—	**$3.95**


13-19

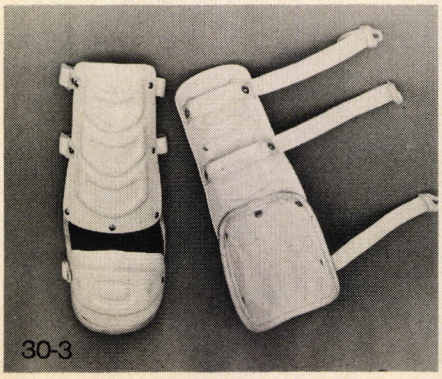


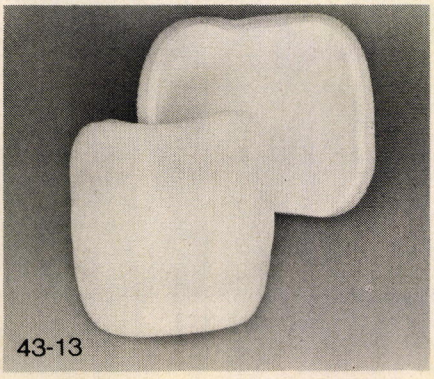
16-13

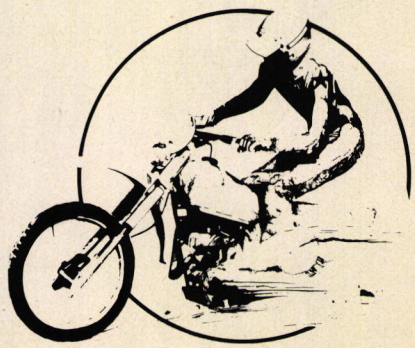

20-20

20-21

21-9


30-3


43-13



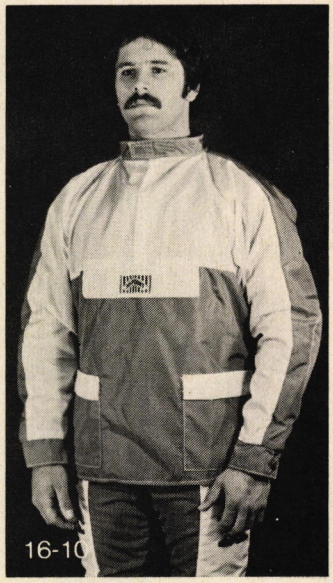
ENDURO JACKETS & SUITS

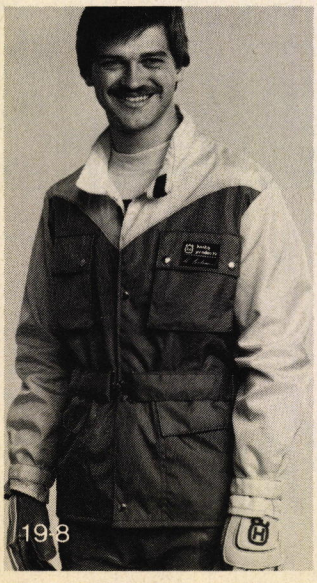
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
12-4	GRIFFS ISDT	Designed for U.S. Six Day team to be windproof and waterproof. Abrasion-resistant chaps cloth, Velcro on wrists and soft corduroy collar.	R, Bl, Bk	XS–XL	**$80.00**
12-5	GRIFFS OVERPANTS	Same chaps cloth as jacket; windproof, waterproof, seamless crotch.	R, Bl, Bk	—	**$30.00**
13-12	TORSTEN HALLMAN 6-DAYS	Lightweight yet warm when zipped up, made of tough, waterproof nylon; cuffs and collar fasten with Velcro. "Air pocket" back for comfort.	Bl/Y, R	S–L	**$79.35**
16-10	HI-POINT NYLON PULL-OVER	A nylon pull-over enduro jacket with Velcro front and pocket closures, padded elbows, dual pockets and a soft collar material.	Bl/Y, R/Y	S–XL	**$77.50**
19-8	HUSKY PRODUCTS ENDURO JACKET	Constructed of durable, water-resistant nylon with Velcro adjustable cuffs and neck, zippered cooling vent in back; fully lined with nylon.	Bl/Y	S–XL	**$65.00**
20-11	JT RACING	A lightweight enduro jacket lined with quilted nylon polyester fill for comfort. Adjustable collar and cuffs; machine washable.	R/Y, Bl/Y	S–XL	**$98.00**
22-13	KAWASAKI ENDURO JACKET	Made of heavy-duty royal blue chaps cloth, with Velcro closures on collar and cuffs; water-resistant inner coating, roomy pockets and belted waist.	Bl	XS–L	**$69.95**
22-14	KAWASAKI ENDURO PANTS	Made of same royal blue chaps cloth; polyurethane coated inside, water-repellant outside; machine washable like the jacket.	Bl	XS–XL	**$29.95**

12-4

12-5

13-12


16-10


19-8

20-11

22-13

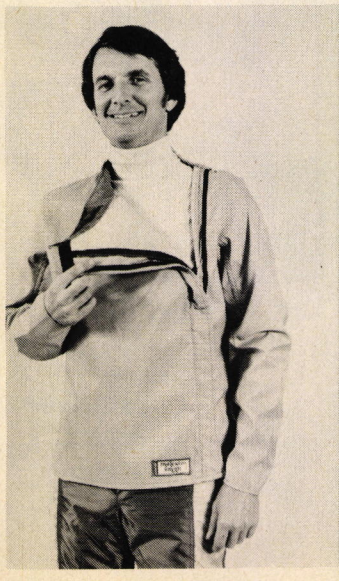
22-14

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
23-3	KNOBBY SHOP INT. BELSTAFF JACKET	Made of waxed, thornproof cotton material, with leather in stress areas; fully lined.	Bk/R, R/W	S–L XL	$107.00 $115.75
23-3	KNOBBY SHOP INT. BELSTAFF PANTS	Waterproof and thornproof waxed cotton material for extreme weather protection and ease of movement.	Bk/R, R/W	28-33	$61.00
25-5	MAICO 6-DAYER JACKET	Two-way YKK zipper with Velcro overlocking flap, full-cut shoulders to allow for pads, seamless shoulders, zippered and flapped rear cooling vent.	R/Y	S–XL	$99.00
34-14	MALCOLM SMITH ENDURO JACKET	A lightweight nylon jacket with Velcro-fastening corduroy collar and cuffs, zippered and snapped front flap and waist belt.	Bl/Y, Bl, R	S–XL	$72.50
34-15	MALCOLM SMITH ENDURO PRO	A uniquely designed water- and windproof jacket that breathes to eliminate condensation; special Gortex material with large rear storage pockets,	Bl, R	S–XL	$63.50
41-7	BILL WALTERS ISDT JACKET	Made of heavy-duty, double-stitched, 100 percent nylon with fully padded shoulders; Velcro closures at wrists and pockets, cotton lining.	Bk, Bl, R & Combos.	S–XL	$59.95
41-8	BILL WALTERS ISDT PANTS	Constructed similarly to jacket with 100 percent nylon, two leg pockets and double-stitching throughout.	Bk, Bl, R & Combos	S–XL	$54.95
43-12	YAMAHA BARBOUR SUIT	Classic suit exclusively distributed by Yamaha, treated and waxed for water repellency, fully lined; made from Egyptian cotton.	Bk	—	Jacket $89.95 Pants $69.95

23-3

25-5

34-14

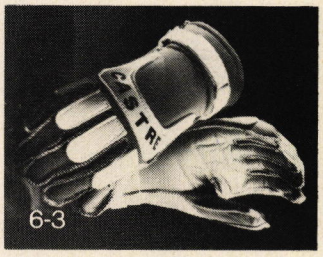


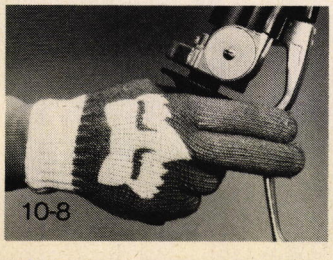
34-15

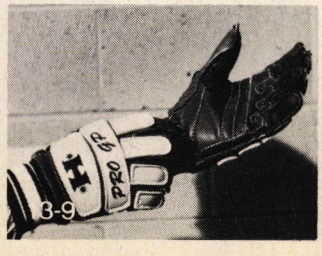
41-7

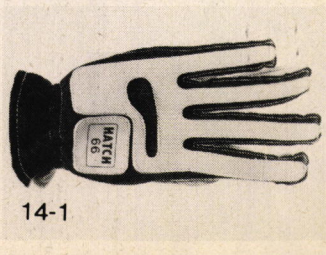
43-12

NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
3-4	BATES MX	Made of leather with pre-curved palm and finger design; dual layer of leather on palms and inside thumb, high-density padding on back and fingers.	Tn/W	XS–XL	**$25.95**
6-2	CASTRE C-3000	Made of quality leather with double lock-stitched outside seams, double-reinforced thumb area and impact-absorbent finger and back padding.	Team	—	**$24.95**
6-3	CASTRE C-8000	Soft yet durable quality leather mated to tough nylon backing, with double-reinforced thumb and forefinger and Velcro wrist strap.	Team	—	**$24.95**
6-4	CASTRE C-8700	A scaled-down version of the C-8000 with same features, such as double-stitched outside seams and padded palms.	Team	—	**$14.95**
7-3	DG KOHO PRO	Leather construction designed to help eliminate blisters; quality craftsmanship throughout.	R/W/Bl	5–11	**$25.00**
9-4	ESPRIT PRO-2	New line featuring contoured cut, supple leather, outside seam stitching, inside palm padding and absorbent padding on knuckles and thumb.	Team	S–XL	**$24.95**
10-6	MOTO-X FOX SUPERFOX	Soft goatskin leather with padded palms, extra thickness around high-wear areas and cool nylon backing for durability.	Team	5, 6, 7 S–XL	**$25.50**
10-7	MOTO-X FOX GRAND PRIX	Sewn from supple leather with padded palms, double leather in critical areas, impact protection on back of hands and fingers.	Team	S–XL	**$32.95**
10-8	MOTO-X FOX MUD PAWS	Designed for good grip in wet or muddy riding conditions, with cotton-nylon blend for durability; machine washable.	O/W	—	**$2.95**
13-9	TORSTEN HALLMAN PRO GP	Made of finest leather, with padded palm and thumb, nylon and impact-absorbent padding on back and fingers and knit cuff around wrist.	Bl/Y, Bk/Y, R/Y/Bk	8–11	**$26.95**
13-10	TORSTEN HALLMAN ROGER De COSTER	Fully padded protection for palm, thumb and back of hand; pre-curved design to reduce blisters, with quality goatskin and nylon stitching.	Bl/W/R	6–11	**$14.95**
13-11	TORSTEN HALLMAN	Designed to the same specifications of durability and protection as the De Coster glove but with Hallman name in yellow, black and red.	Y/Bk/R	6–11	**$14.95**
14-1	HATCH STYLE 66	Grand Prix-style back pad on top of rubberized nylon, with cowhide palm and contoured design for maximum comfort.	R/W/Bl, Bk/W/Y	XS–XL	**$16.25**

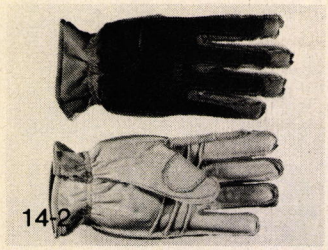


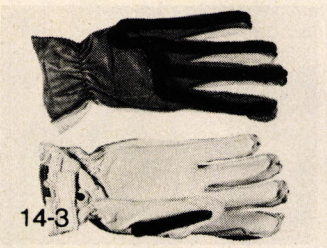


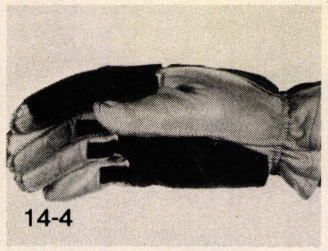


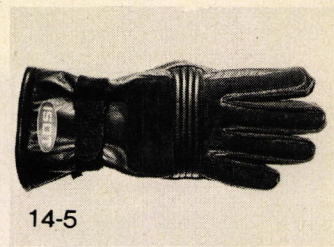


NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
14-2	HATCH STYLE 66T	Designed by trials champion Bernie Schreiber. Features ribbed palm for positive grip, soft cowhide palm, rubberized nylon back.	R/W/Bl	S–XL	**$17.25**
14-3	HATCH STYLE 88	Features a one-piece molded rubber backing notched to allow finger bending, cowhide leather, contoured palm and reinforcing patches.	Bn/W/Bk	S–XL	**$19.75**
14-4	HATCH STYLE 99	A padded layer of leather added to curved palm and finger design; reinforced palm pads extended to cover potential wear areas.	R/W/Bl	S–XL	**$22.25**
14-5	HATCH ISDT	Made of split cowhide with padded protection and warmth for cold-weather riding; insulated palm and Velcro-adjustable wrist strap.	Bk	S–XL	**$31.50**
16-7	HI-POINT LEATHER GP	Made of quality lambskin in pre-curved design with or without padded palm, impact padding on fingers and back of hand. Prices shown are for padded glove.	Team	5 & 6 7-11	**$24.25** **$28.75**
16-8	HI-POINT GP NYLON-LEATHER	Made with quality lambskin and tough nylon in pre-curved design, reinforced thumb area, impact-absorbing finger and knuckle protection.	Team	5 & 6 7-11	**$22.95** **$27.50**
18-5	HONDALINE PRO-HONDA	Supple goatskin for comfort, pre-cupped palm, curved fingers, double layer of leather on palm, vinyl knuckle protector and elastic wrist band.	Team R/W/Bl	S–XL	**$22.00**
18-6	HONDALINE MX-II	Pliable cowhide for comfort with curved finger and palm design, thumb guard, seamless palm, finger padding on outside and elastic wrist band.	Tn	XS–XL	**$11.50**
19-6	HUSKY PRODUCTS MX	Made in Finland from goatskin, with impact-absorbent padding on fingers and back of hand; available with or without palm padding.	Bl/Y	—	**$23.75** **$24.50**
19-7	HUSKY PRODUCTS CROSS COUNTRY	Made from long-lasting Finnish goatskin, with impact-absorbent padding, rolled knit cuff. Available with or without palm padding.	Bl/Y	—	**$26.00** **$27.00**
20-7	JT RACING CHAMPION 2	Constructed of European lambskin with four graduated selections of palm padding; double-padded thumb and special stitching.	R/Y, Bl/Y, W/Bl, Y/R	8–11	**$28.00–** **$32.50**
20-8	JT RACING HALF-BREED	Made of vented nylon knit fabric that stretches leather on underside. Three styles of padding available.	Y, R, W, Bl	8–11	**$26.55–** **$29.25**
20-9	JT RACING WET WEATHER	An excellent wet-weather glove that provides extra grip when things get slick; cotton knit with special gripping beads.	W/Bl	(S–M) (L–XL)	**$2.95**


14-2


14-3

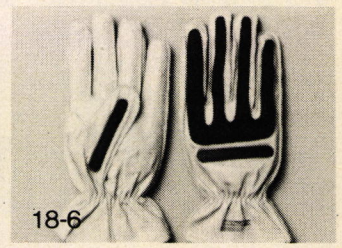

14-4


14-5

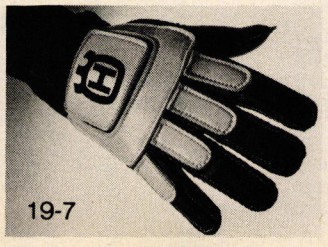
16-7

16-8

18-5

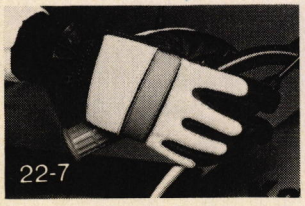

18-6

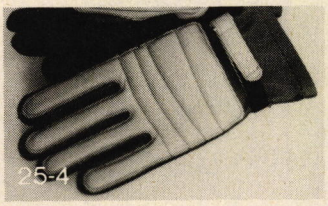
19-6


19-7

20-8

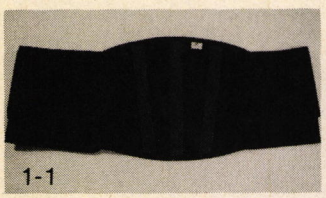
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
21-3	JOFA	Constructed of cowhide, with double-stitched seams, reinforced index finger and thumb, foam padded palm and thick foam padding on back.	Team	—	NA
22-7	KAWASAKI MX	Top grain cowhide construction with padding on fingers and back of hand, padded palm and thumb, outside stitched seams and elastic wrist band.	Bl/W/G	—	$19.95
22-8	KAWASAKI DELUXE MX	Latest pre-cupped design to reduce bunching, with double-stitched nylon seams, top grain cowhide construction and elastic wrist band.	Bl/W/G	Youth S–XL	$17.50 $24.50
25-4	MAICO ROGUE	Soft deerskin, vent holes between fingers, palm grip ribs, full padding on back of hand, fingers and thumb and Velcro wrist adjustment.	R/Y, Bl/Y, Bk	—	$34.95
26-6	MXL 777	A leather glove with nylon webbing between the fingers, reinforced palm and thumb, ribbed back-of-hand padding and elasticized cuff.	R/W/Bk, Y/W/Bk	S–XL	$23.95
26-7	MXL 780	A newly designed version of the childrens' glove with a leather palm, reinforced wear points, tough nylon back and foam knuckle protection.	R/Bk, Y/Bk	Youth S, M, L	$12.95
26-8	MXL 781	A junior glove with all-leather, double-stitched construction, lightly padded and reinforced palm, elastic wrist band and curved design.	R/Y, Bk/Y	Inter. S, M, L	$18.95
26-9	MXL 790	An all-leather glove featuring a curved design, with back and finger padding and elasticized wrist band. Top of the line.	Bk/Y, Bk/R	XS–XL	$34.95
26-10	MXL 791	The Bermbuster model features a rugged drum-died leather palm with long-wearing reinforced thumb and finger, special nylon-weave back material.	R/Y/Bk, Bl/Y/Bk	S–XL	$21.95
34-12	MALCOLM SMITH STAR MODEL	The Star glove is constructed of soft yet strong cabretta leather and features a double-stitched palm.	R/W/Bl, Tn	S–XL	$24.50
34-13	MALCOLM SMITH SIGNATURE MODEL	A very comfortable, all-new shorter glove made of soft cabretta leather with an internal, foam-padded palm for additional protection.	Tn/Bl/Y	S–XL	$24.50
38-3	TRAC-PRO	Sheepskin leather with double-reinforced stitching, pre-cupped palms to reduce blisters and vinyl abrasion-absorbent back padding.	R/Bl, R/Y, R/Bk, Y/Bl, Y/Bk	S–XL	$24.95
43-7	YAMAHA MX	Made of quality leather with knuckle-saving back padding, pre-cupped palm for a snug feel and blister protection.	Bk/W	—	$19.95
43-8	YAMAHA ENDURO	Leather design with suede finger inserts, beefed-up stress areas and pre-cupped palm curve for blister protection.	Br	—	$21.50

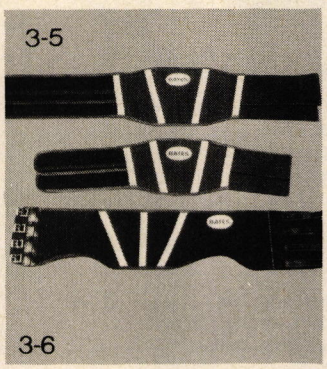


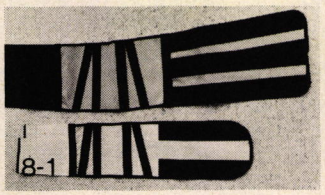


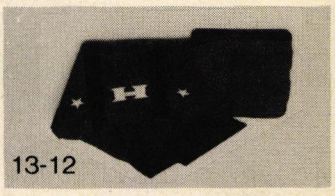
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
1-1	ANCRA	Designed to increase total area of body support for maximum comfort; made of heavy canvas duck with Velcro fasteners and coated spring-steel ribs.	Bk/Bl	26–36	$21.95
3-5	BATES WRAPAROUND	Two-fold design for support and comfort is cut with special contour shape that fits around hips without chafing; made with elastic and Velcro.	Bk/Y	24–30 31–46	$12.50 $14.50

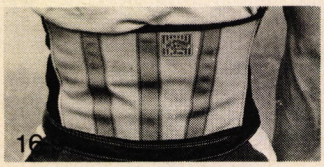
NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
3-6	BATES BUCKLE STYLE	Buckles and straps help distribute pressure evenly around the midsection. Larger sizes available at extra cost; two inches of adjustment.	Bk	Specify	**$8.95**
8-1	VICTOR DESSBERG	Made of sturdy white or yellow cotton canvas and 100 percent nylon fabrics, youth model is six inches wide, adult is eight inches wide, with Velcro fasteners.	Y, Bl, Bk, W	Youth Adult	**$16.95** **$21.95**
13-12	TORSTEN HALLMAN	Gives the kind of support needed for all-out competition; wide to provide the best protection and support, fully adjustable with Velcro.	Bl/Bk, R/Bk, Y/Bk, O/Bk		**$14.45**
16-9	HI-POINT	Guaranteed against splitting at the seams, made of heavy-duty canvas and elastic with plastic stays in back and Velcro fastening system.	Team	Youth Adult	**$18.95** **$20.95**
22-12	KAWASAKI	Made of heavy canvas for maximum support with three vinyl-coated back-support stays; dual wrap-around elastic flaps with Velcro fasteners.	Bk/G	Youth 22–32 Adult 28–36	**$18.95** **$19.95**
26-11	MXL	Quality cowhide for support; sturdy elastic wrap-arounds with Velcro fasteners. Comes complete with carrying bag.	Tn/Bk	—	**$24.95**
35-4	GOLD BELT ORIGINAL	Uses five plastic-coated spring-steel stays for support. Heavy cotton duck with double overlapping flaps for adjustability; 8¾ inches wide.	Gd/Bk, Bk	27–38 38+	**$21.50**
35-5	GOLD BELT TEAM REPLICAS	Same width and construction as original, but available in five factory team colors.	R/Bk, R/Y, Bl/Bk, Bl/Y, Y/Bk	27–38	**$21.50**
35-6	GOLD BELT PROFESSIONAL	Designed with the help of Bob Hannah, Jim Weinert and Marty Smith. Narrower 7¼-inch profile to suit the smaller, leaner body of the pro racer.	Gd/Bk, Bk	25–36	**$19.95**
35-7	GOLD BELT DYNAMITE	Same quality construction techniques as original but with a six-inch width and a single fastening flap for women.	Bl/Bk	20–32	**$12.95**
38-4	TRAC-PRO MX	A unique design featuring a full one-piece plastic back stiffener with ventilation holes and double-reverse crossover flaps for even support.	Bl/Y, R/Y, Y/Bk	28–36	**$22.95**
41-6	BILL WALTERS	Made of heavy-duty 20-ounce canvas with elastic and Velcro hook/loop fasteners; also available in narrower women's sizes.	Bk/Y, R/W/Bl	Youth 20–28 Adult 24–38	**$9.95** **$15.95**
43-11	YAMAHA	Designed for maximum support. Made from rugged Cordura nylon with leather reinforcing stays, elastic sides and Velcro fasteners.	Y/Bk	Youth Adult	**$17.95** **$19.95**

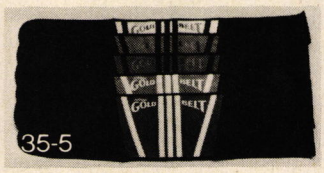


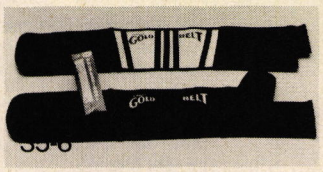


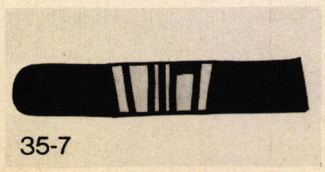


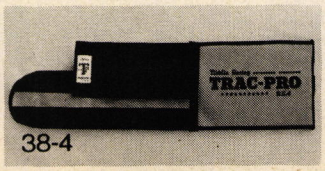


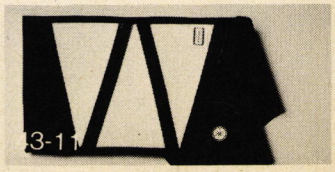




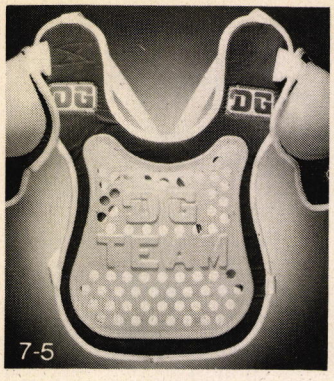




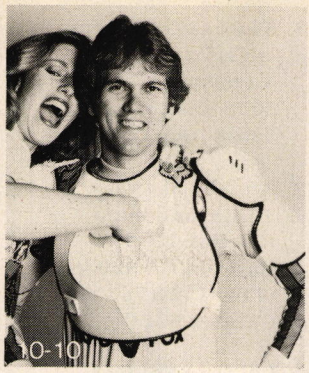


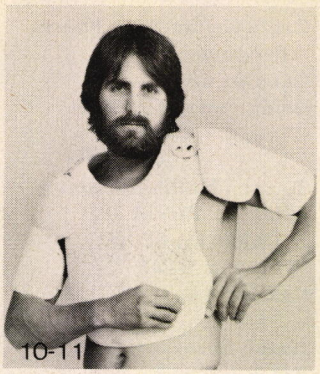


NO.	ITEM	FEATURES	COLORS	SIZES	PRICE
34-21	MALCOLM SMITH	Made of impact-absorbing, high-density foam padding encased in nylon, with high-impact plastic shoulder caps and form-fitting adjustable straps.	Bl/W	Youth Adult	**$15.25** **$34.33**
7-5	DG KOOL FLOW TEAM PADS	Made of shock-resistant foam with plastic shoulder guards and chest protector. Available in team colors for Honda, Suzuki, Yamaha and Kawasaki.	Team	—	**$35.00**
10-10	MOTO-X FOX SUPERFOX	Made of nylon-covered foam, with plastic Fox head guard. Lightweight shoulder cups are removable and fully adjustable.	R/Y, Bl/Y	—	**$44.95**
10-11	MOTO-X FOX-YOKO UNDER JERSEY	Made by Yoko in Finland of lightweight nylon and foam padding; adjustable snap-on shoulder guards are removable.	W	—	**$29.95**
13-14	TORSTEN HALLMAN GP MODEL	Designed to provide protection for the chest and arms. Ultra-light high-impact foam covered with tough vinyl fabric; adjustable.	Y/Bl, W/R	—	**$48.30**
13-15	TORSTEN HALLMAN ABH MODEL	Super lightweight shoulder and chest protection, featuring high-impact plastic shoulder caps and absorbent foam.	Bl/Y/Bk	—	**$59.90**
13-16	TORSTEN HALLMAN GP 01-540	Weighs only 12 ounces yet gives protection of the shoulders and chest, with air holes provided for ventilation; completely adjustable.	W	—	**$29.25**
13-17	TORSTEN HALLMAN GP SHOULDER PADS	High-impact shoulder pads are sewn on tough plastic to absorb crash impact; fully adjustable and available in junior sizes.	O/W	Youth Adult	**$34.15** **$44.45**
16-11	HI-POINT SHOULDER ONLY	Lightweight shoulder protection made of space-age, shock-absorbent padding covered on both sides by oxford nylon, with molded plastic shoulder cups.	R/W R/W	Youth Adult	**$16.85** **$25.35**
16-12	HI-POINT FULL COVERAGE	Made of the same lightweight, space-age, shock-absorbent padding as the standard shoulder pads, but with extended chest protection.	R/W R/W	Youth Adult	**$34.70** **$45.75**
20-12	JT RACING TEAM SCREEN	Developed for Bob Hannah. Superior air circulation for hot-weather riding; ventilated polyethelyne attached to impact-absorbing padding.	R/Y, Bk/Y, Bl/Y, Bl/W	—	**$39.95–$47.75**
20-13	JT RACING VENTILATOR	High-impact polystyrene chest plates distribute stone force evenly and give maximum air ventilation. Velcro-attached.			**$61.95**
20-14	JT RACING BODY SHELL	Designed to cover the maximum amount of trunk area both front and back; ⅛-inch polystyrene plates distribute impact.	R	S–M L–XL	**$67.95** **$69.00**
20-15	JT RACING COLOR GUARD	Basic stone protection for chest and upper arms made of tough, shock-resistant foam covered in nylon.	Bl/Y, R/Y, Bk/Y		**$32.95**
20-16	JT RACING WIND SHIELD	Identical to the Ventilator except that the Wind Shield is ventilated in both front and back.	Bl/Y, R/Y, Bk/Y		**$51.25**
21-5	JOFA 318 & 319	Grand Prix pads made of closed-cell material, with double thickness over chest area; fully adjustable, with smaller junior version also available.	O/W	Jr. 319 318	**NA** **NA**
21-6	JOFA 327	International model made of closed-cell material, with molded shoulder cups and upper arm guards, one-piece front unit. Fully adjustable.	O/W	—	**NA**
21-7	JOFA 333	Open-class model pads made of same closed-cell material; plastic plates protect upper and lower front as well as upper back and shoulders.	O/W	—	**NA**
21-8	JOFA 347	National model pads features closed-cell pad material, with molded shoulder cups and upper arm protection; fully adjustable.	O/W	—	**NA**
22-15	KAWASAKI	Competition shoulder pads and chest protector with high-impact plastic shoulder caps; fully adjustable with drop harness to prevent chafing.	Bl/W	—	**$35.95**
30-2	RISTER IND.	Made with sturdy polypropolene plastic guards stitched to impact-absorbing padding covered in tough nylon; adjustable straps and laces.	R, Y	—	**$42.95**



7-5

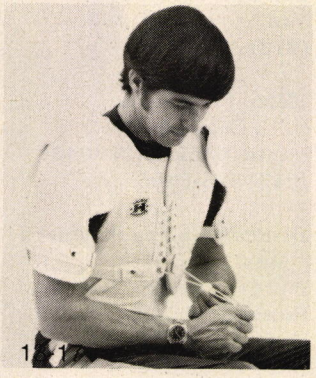

10-10

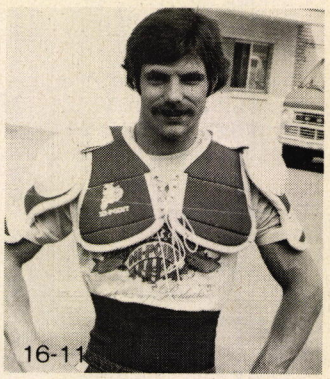

10-11

13-14

13-15

13-16


16-11



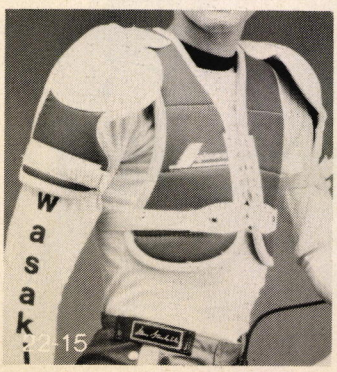
16-12

20-1

20-13

20-14

20-16



20-15

21-5
21-6
21-7
21-8

30-2

1 Ancra Corporation
2233 E. Grand Ave.
El Segundo, CA 90245

2 Stadium/Barmed
107 Brimbal Ave.
Beverly, MA 01915
(617)927-3400

3 Bates Industries
636 W. 16th St.
Long Beach, CA 90801
(213) 435-6551
Catalog $3

4 Bell Helmets
15301 Shoemaker Ave.
Norwalk, CA 90650
(213) 921-9451
Free brochure

5 Carrera International
P.O. Box 2
Norwood, NJ 07648
(201) 767-9024
Free brochure

6 Castre Incorporated
836 Flory Mill Road
Lancaster, PA 17601
(717) 569-4546

7 DG Performance Specialties
1170 Van Horne Rd.
Anaheim, CA 92806
(714) 630-5471
Free catalog

8 Victor Dessberg
3535 Jaffa Dr.
Sarasota, Fl 33579
(813) 955-5960

9 Esprit Products
1511 Alum Creek Dr.
Columbus, OH 43209

10 Moto-X Fox
520 McGlincy Lane
Campbell, CA 95008
(408) 371-1221
Catalog $3

44 Full Bore/Yankee
P.O. Box 36
Schenectady, NY 12301

35 Gold Belt Line
7045 Darby Ave.
Reseda, CA 91335
(213) 705-8811
Catalog $1

11 G.S.M. Motorcycle Accessories
13026 Raymer
North Hollywood, CA 91605

12 Griffs/Griffin-Visa Therm Products
P.O. Box 486
Bridgeport, CT 06604
(203) 334-4560

13 Torsten Hallman Racing
1300 Hill Street
El Cajon, CA 92020
(714) 442-0431
Catalog $4

14 Hatch Accessories
P.O. Box 7257
Van Nuys, CA 91409
(213) 873-2141

15 Helmet House Inc.
2115 Colorado Ave.
Santa Monica, CA 90404
(213) 828-6405

16 Hi-Point Racing Products West
9604 Oates Dr.
Sacramento, CA 95827
Catalog $3

16 Hi-Point Racing Products Central
P.O. Box 2327
Amarillo, TX 79105

16 Hi-Point Racing Products East
3709 W. Erie Ave.
Lorain, OH 44053

17 Hi-Q Products
P.O. Box 455
Affeville, AL 36310
(800) 633-7564
Free catalog

18 Hondaline-Honda Dealers Nationwide
American Honda Motor Co.
100 W. Alondra Blvd.
Gardena, CA 90247

19 Husqvarna Products
4925 Mercury St.
San Diego, CA 92111
(714) 565-1414
Catalog $2

20 JT Racing Imports
303 W. 35th St. Suite D
National City, CA 92050
(714) 427-0971
Catalog $4

21 Jofa-Volvo of America Corp.
Recreational Products Div.
Rockleigh, NJ 07648
(201) 768-7300
Free brochure

22 Kawasaki Dealers Nationwide
Kawasaki Motor Corp.
2009 East Edinger
Santa Ana, CA 92711

23 Knobby Shop International
P.O. Box 1592
La Jolla, CA 92038
(714) 452-1783
Catalog $3.50

24 Lancer Leathers
2007 W. Peoria Ave.
Phoenix, AZ 85021
(602) 944-1783

25 Maico West
110 E. Santa Anita Ave.
Burbank, CA 91502
(213) 843-5515
Catalog $2

26 MXL/National Hydron Inc.
P.O. Box 222
East Petersburg, PA 17520
(717) 569-8711

27 Oakley Products
23086 Terra Drive
Laguna Hills, CA 92653
(714) 951-0991

28 Jim O'Neal Distributing
9555 Owensmouth
Chatsworth, CA 91311
(213) 998-1049
Catalog $3

29 Pro-Tec
11108 Northrup Way
Bellevue, WA 98004
(206) 828-6595

30 Rister Industries
134 N. Second Ave.
Upland, CA 91786
(714) 981-3872 985-0922

31 Salice Goggles/Magura USA
P.O. Box 337
Milroy, PA 17063
(717) 667-2118

32 Scott USA
Drawer C
Ketchum, ID 83340
(208) 726-7791

33 Smith Goggles/Sport Optics
P.O. Box 11
Ketchum, ID 83340
(208) 726-4477
Free brochure

34 Malcolm Smith Products
7563 Indiana Ave.
Riverside, CA 92504

36 Super Seer Corporation
P.O. Box 700
Evergreen, CO 80439
(303) 674-6663
Free catalog

37 U.S. Suzuki Motor Co.
13767 Freeway Drive.
Santa Fe Springs, CA 90670

38 Trac-Pro/Tibblin Racing Products
P.O. Box 937
Escondido, CA 92025
(714) 741-6051
Free catalog

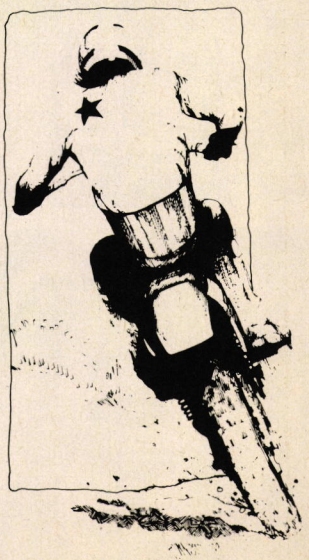
39 Uvex Winter Optical
232 W. Exchange St.
Providence, RI 02903
(401) 421-1314

40 Van Leeuwen Enterprises/Am Pro
11135 Vanowen
North Hollywood, CA 91605

41 Bill Walters Leathers
7359 Varna Ave.
North Hollywood, CA 91605
(213) 982-3738

42 Wheelsport Dist. Co.
P.O. Box 4768
Portland, OR 97208

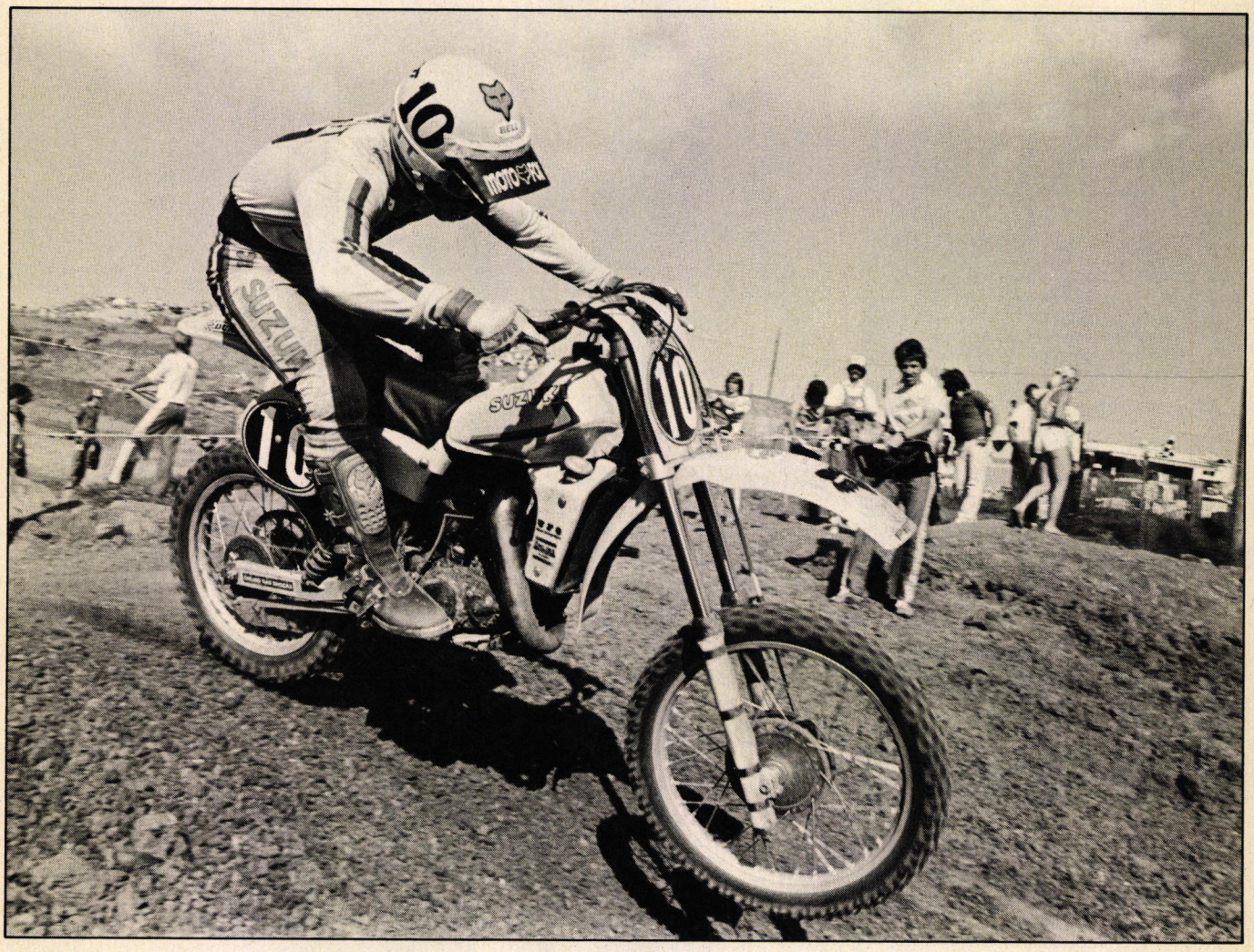
43 Yamaha Parts Dist. Inc.
6555 Katella
Cypress, CA 90630



SPORT LINES

Cycle Guide's True Tales of Race Courses, Dark Horses and Machines at Speed

EDITED BY MICHAEL JORDAN



PHOTOGRAPHY: TERRY WHYTAL

Motocross at the Waterpump

You can lead a bike to water, but does it need to drink?

• With the AMA claiming rule suspended indefinitely and the success of water-cooled motocross bikes in Europe confirmed, it was no surprise when the opening race of the AMA's National 125cc motocross championship marked the debut of water-cooled hardware from each of the Big Four motocross teams. The revolution in heat dissipation has begun.

Honda, Kawasaki, Suzuki and Yamaha each fielded a 125cc racer with a radiator, hoses and a waterjacket. The cooling strategy is the same in that an impeller circulates coolant through passages cast in the cylinder barrel and head. The major area of disagreement between the engineers from each team is radiator placement. And for good reason, for the radiator is the Achilles heel of the water-cooled motocross bike. Radiators are prone to leakage, susceptible to clogging in muddy conditions and vulnerable to flying rocks and crash damage.

Both Suzuki and Kawasaki chose to locate the radiators on the frame downtubes just in front of the engine. Kawasaki's team manager Steve Johnson says of the placement, "We think our location is less vulnerable in a crash and keeps the weight down low. Also, with the radiator closer to the cylinder, the coolant is able to circulate much quicker and stay cooler."

The Yamaha that 125 champ Broc Glover rides has its radiator in the same place the first water-cooled Yamaha of five years ago did, right behind the front number plate. A high center of gravity and heavier steering are the penalties for this location, but as Yamaha engineer Hugh Yamamoto explains, "The radiator is better protected from the muddy condi-

Continued

OLYMPIC TROPHY OFFICIAL SUPPLIER TO THE LARGEST EVENTS IN AMA MOTORCYCLE RACING

Daytona 200
Daytona Supercross
Silver Dome Supercross
All Pace Supercross Events
Daytona Amateur Road Racing
AMA Mini Nationals
#1 Supplier to the AMA Nationals
Suppliers to the Most Successful Clubs and Promoters in America!

Special Program for all Clubs and Promoters. Buy Direct & Save! Free Engraving and Delivery. Finest Quality · Largest Sizes · Latest Designs and Lowest Prices.

Call Charlie Kight · 301/739-5811

Olympic Trophy Company
701 Park Lane
Hagerstown, MD 21740

class-C

FIREWORKS

U.P.S. to legal states
send $2.00 for whls. catalog
Safety "4th" Novelty Co., Inc.
Box 47, Hammondsville, Ohio 43930
Phone: 216/532-2602

FOUR STROKE PERFORMANCE . . .

Turn It On With a WEB-CAM

Superior performance is yours when you install a Web-Cam camshaft, available for all popular 4-strokers (ATC's too!) . . . our techniques include regrinds, hard-welds, and grinding new billets, each to give you the profile you need . . . Send $1.00 for complete catalog

WEB-CAM
1663 Superior Ave.
Dept. CG
Costa Mesa, CA 92627
714/631-1770

Glover and aqua-Yamaha

Faster engine with slower steering.

tions of many of the tracks we use for testing in Japan, and we think this is very important."

Honda takes a different approach and mounts the cooling core beneath the gas tank, with air scoops molded into the sides of the tank to funnel air to it. Team Honda's Gunnar Lindstrom is convinced this method is superior, and states, "Our placement means the radiator is better protected from mud than Suzuki or Kawasaki, and though the weight is located higher, it's not as high as the Yamaha. Also, the way we repositioned the gas tank, to hold the fuel lower, equalizes, we think, the weight of the coolant and the radiator."

In addition to the abstract problems of placing the radiator, there are several concrete difficulties that water-cooled bikes pose. For example, maintaining a factory motocross bike is already more than a full-time job, and water-cooling heightens the complication. As Chris

Myerscough and watered-down Suzuki

Waiting for proof that water is better.

Continued

KONI Adjustable Shock Absorbers

Replace worn out units with the world famous adjustable KONI dampers.
We pay shipping.
Bank or P.O. money order — offer limited to the quantities on hand.
Use coupon below.

$20.00 per pair

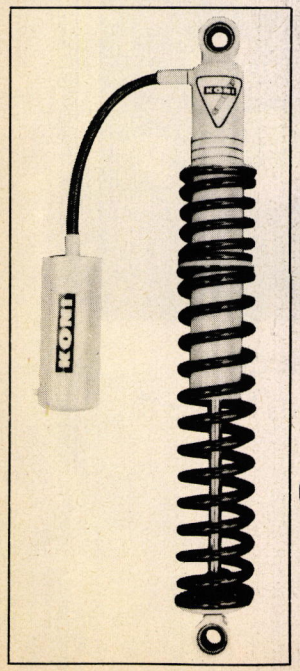
KONI PART NO.	APPLICATION
Shock No. 76F-1277SP30	Benelli: 250-2C (73/77) CZ: 125, 175, 250cc Sport (76/77) Ducati: Mark 3 and Desmo (to 76) 500 LD Pantah (78) 750 GT (77) 900 SD Darmah (78/79) Harley-Davidson: SS 125, SXT 125 (76) Moto Guzzi: 250 TS (74/77)
Shock No. 76F-1283	BSA: 500, 750cc (All)
Shock No. 76F-1283	Harley-Davidson: XL, XLH, XLCH Sportsters (79)
Shock No. 76F-1283SP4	Suzuki: TS-250, 400 (75/77)
Shock No. 76K-1311	Yamaha: XS-1, SX-2 500cc (71/74)
Shock No. 76F-1325 **Spring Rate** 112 lb. — 8.5"	MV Agusta: 750 GT & S (71/77)
Shock No. 76F-1329	Benelli: 500 Quattro (74/77)
Shock No. 76K-1335	Kawasaki: KT-250 Trial (75/76) Yamaha: MX-125, 250, 360 (73/74)

KONI PART NO.	APPLICATION
Shock No. 76F-1374	Honda: CB-125 & CB-200 (71/78)
Shock No. 76K-1378	Honda: XL-175, XL-250, XL-350 (73/76)
Shock No. 76V-1381	Husqvarna: 125, 25C 400cc MX (72/74) 250cc WR & 400cc CR (to 75)
Shock No. 76F-1349	Yamaha: DT-2, DT-250, RT-2 & DT-360 (73/74)
Shock No. 76N-1357	Honda: Elsinore CR-125M, CR-250M (73/75) MT-125, 250, MR-175, 250 (73/76)
Shock No. 76F-1358	Rokon: RT-340 Enduro, MX-340 (74/75)
Shock No. 76F-1358SP30	Maico: MC-250, 400 (74/75) Penton (KTM): 125, 175, 250, 400GS (75) Yamaha: TT-500, 500 XT Enduro (76)
Shock No. 76F-1373	Norton: Commando 750cc & 850cc (69/77)

SPECIAL OFFER

ALL KONI SHOCKS ACCEPT STANDARD LENGTH SPRINGS

KONI Remote Reservoir GAS Shocks $40.00



Per Pair With 3 Rate Springs and Spherical Bearings in Both Mounting Eyes

MAKE	Part Number	L Max.	L Min.	Stroke	L Hose	Bearing I.D. x Width	Spring
MAICO (Bikes with link ratio 2.0/2.3)	23X-1001 SP3 142	349mm (13.74")	227mm (8.94")	122mm (4.80")	150mm (5.90")	8 x 22	300-18/25/32
PENTON/KTM (Bikes with link ratio 2.0/2.3)	23X-1011 SP7 137	344mm (13.54")	227mm (8.94")	117mm (4.60")	270mm (10.63")	8 x 22	300-20/27/37

BIKONI LTD. 163 SOUTH STREET, HACKENSACK, N.J. 07601
Please ship the following:

ADJUSTABLE SHOCKS ( ) Shock No. _____ Shock No. _____ Shock No. _____
REMOTE RESERVOIR ( ) Shock No. _____ Shock No. _____ Shock No. _____

Enclosed find Postal ( ) Bank ( ) Money Order in the amount of $_____ to cover cost and shipping of _____ pairs of shocks/springs.

KONI

Name _____
Address _____
City _____ State _____ Zip _____

Supertuner.® Nobody can steal our thunder.

Ever since Pioneer unleashed its Supertuner® technology on car stereo, the competition has tried to catch up. Tried to match our home hi-fi specs. Tried to duplicate our unique, station-grabbing sound.

But the only thing that sounds like a Supertuner is a Supertuner. And Pioneer now offers an entire line. Including the newest Supertuner of all: the incomparable KP-5500 pictured here.

The KP-5500 gives you FM muting to blank the noise between stations. Useable FM sensitivity of 1.1 μV.

Selectivity of 74 dB. A capture ratio of 1.7 dB.

Team it with a set of Pioneer TS-695 3-way speakers, and you've got a Supersystem that works audible wonders with tape and FM.

Your Pioneer dealer can give it to you at a very reasonable price.

TS-695

KP-5500

Supertuner by Pioneer.

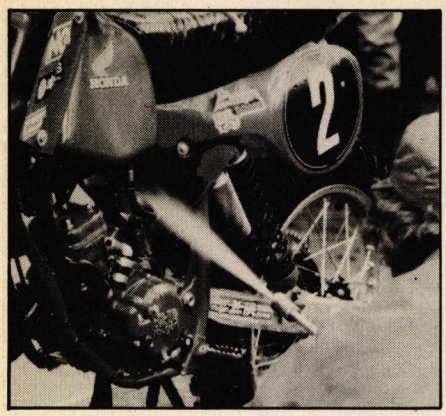
The competition can't give it to you at any price.

PIONEER®

The Best Sound Going

To find your nearest dealer, toll-free, call: (800) 447-4700. In Illinois: (800) 322-4400.

©1980 Pioneer Electronics of America, 1925 E. Dominguez St., Long Beach, CA 90810



Europe's water-cooled Honda 125

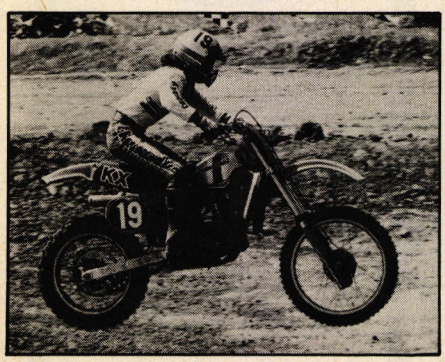
Already a winner on the GP circuit.

Hines, Suzuki mechanic for Brian Myerscough, says of his job, "The 125 bikes are the most difficult to keep perfect and require the most maintenance, even more than stadium bikes. With the extra work caused by watercooling it takes about 20 hours to rebuild the bike for a race. You have to be more careful with gaskets and seals, and make sure the hoses are sealing. There's just more parts to take care of."

On the other hand, Steve Johnson counters that Kawasaki's "watercooling is so well designed that the bike really is just as simple as the air-cooled model, weighs the same and really is no extra problem to work on." Yamaha's Yamamoto admits waterpumpers do pose special problems, but says, "The 125 bikes have such a high power-to-displacement ratio that the cooling is very important. Many Yamaha customers have complained about power fade after only 10 minutes of riding, and we wish to find a way to solve the problem."

The bottom line to the controversy, however, isn't the vulnerability of waterpumpers to crashes or their maintenance hassles—upon these points everybody agrees, really. The question is whether, as the privateers complain, the water-cooled bikes constitute an unfair advantage. Or, even more to the point, do they work well enough to justify their problems?

"Yes," Kawasaki's Johnson says, "we've tested the new waterpumper against last year's National bike and it's definitely better all the way. Faster and cooler." Suzuki mechanic Hines isn't so sure, however. "The bike is an



Ward's liquified Kawasaki

Choosing sensible radiator placement.

Continued

SATISFACTION GUARANTEED!

SUMMER DISCOUNT RIOT!

COMPARE OUR INCREDIBLY LOW PRICES!

SUPER DISCOUNTS ON ALL ACCESSORIES FROM

Excalibur INDUSTRIES INC.

BELL HELMETS

R-T, Wh, Or, Rd, Bl, Bk	$47.50
Magnum II, Wh, Bk, Sl, Or	73.50
Star II, Wh, Bk, Or, Yl	86.95
Moto III, Rd, Yl, Wh	84.95

Sizes 6⅞ x 7¾

ELECTRO HELMETS

Open Face E1		Full Face E3	
Bk, Wh, Yl, Rd, Or, Sl, Wine, Bl	$64.95	Bk, Wh, Yl, Rd, Or, Sl, Wine, Bl, Br	$84.95

DUNLOP DIRT TIRES

410 x 14	K190	$25.65
410 x 18	K190	33.25
450 x 18	K190 6 ply	44.37
460 x 18	K190	38.85
300 x 21	K190	30.82
500 x 17	K88	38.76
500 x 18	K88	45.60

M.T.D. Power Lever ... $7.49 pr.
M.T.D. Pro-Lever ..... $7.49 pr.

SCOTT-USA

#59 Lexon Yl, Rd	$12.95
#55 use over prescription glasses, Bl	$15.25
#53 Cl. Lenses, Wh, Bl, Or	$10.25
Face Guard for all Scotts Wh, Bl, Rd, Yl, Or	$5.25

MOTO-X GLOVES

Sm, Med, Lg, XL

$9.95

ATC TIRES

Knob or Chevron Tread

only $49.95 ea.

3 for $44.95 ea.

RATIO RITE

Exact pre-mix every time.

$2.49 ea.

AMERICAN PRO-GRIP

Surgical Rubber

Red, Yl, Blk. $3.75 pr.

HELMET SHIELDS

Flat Shield, Cl, Tint	$1.59
Bubble Shield, Cl, Tint	2.49
Flip Shield, Cl, Tint	2.99
Vented Visor (3 Snap)	1.75
(5 Snap)	1.99

Specify color.

MOTO TEK CD1

For CanAm / Suz RM80B / RM100B, C / RM250A, B, C / RM370A, B / C2 / Yam YZ80E $48.95

For Yam YZ 80C, D / Honda CR125 / Suz RM125A, B, C ... $55.95

For Honda XL125, 250, 350 / ATC 90 & 100 / TL 125, 250 / Kaw KL250 / Suz 370 4 stroke / Yam XT500 / TT500 ..... $71.95

FINEST NYLON M-X PANTS MADE

Tailor made with expensive features found in no other pants. 100% nylon, fully lined. Foam molded removable knee cups, velcro waist fastener, zipper fly and leg bottoms, Polycord thread (for stretch), double locking stitched throughout. Five piece leg panel for form fit at all body positions. Extra padded hips, inside pocket (required for AMA events). Tough and durable, yet comfortable.

Blue & Yellow with matching stripes
Black & Yellow with matching stripes
Red & White & Blue with matching stripes

Sizes 28 to 38 $49.95

MOTO-X DENIMS

Highest Quality Available

Heavy weight 13/14 oz. denim for wear, 5 piece sewn legs for perfect fit in all body positions. All seams double stitched and wrapped, snap fastner with belt loops, extra heavy knee and hip pads, zippers on fly and legs. Absolutely the finest denims available, look and wear great. Fantastic protection.

Sizes—18 to 42.... $17.95

For name on leg add $1 *Yam, Suz, Hon*

GRAB ON GRIPS

eliminates vibration

only $5.75 pr.

ANCRA TIEDOWNS

Red — 1" x 6' $10.95
Blue — 1" x 5' 8.95

CLYMER MANUALS

State Make, Model, Year..... $6.95

Best written, best photos, H/P chapters on popular models. Make your bike run better and longer.

KIDNEY BELTS

Regular, 27 to 40 ..... $15.95

Velcro Fasteners Excellent Support

OUR SALES POLICY. We provide top quality motorcycle accessories at the lowest possible prices. No seconds, damaged, or blems. Our buying power and size assure us of the lowest prices from manufacturer, which we pass on to you. First color choice will be shipped if possible. All items shipped fully insured. Write us for any requirements you may have for other items not listed in this ad. All prices appearing in this ad are good for 30 days. Allow 4 to 5 weeks for some items, most items shipped immediately. *If you are not satisfied with any product you purchase, return within 10 days with receipt for full refund.*

SHIPPING CHARGES

Must be added to all prices

3 2 1 Min. Order $10

ITEM	Zone #1	Zone #2	Zone #3
Helmets/Pants			
Ancra	1.85	2.50	3.20
Seals/Slip-streamer/ Saddle Bags/ Fairings/Packets	4.80	6.70	8.30
Front Tires	2.60	4.40	4.10
Rear Tires	3.60	5.10	6.15
All Others	3.35	1.80	2.40

AK, HI, PR, APO/FPO use Zone #3 +$2.50. Canada add $4 to Zone #3. All orders shipped fully insured. C.O.D. add $1.50 to shipping charge. 25¢ deposit req. with C.O.D. No. C.O.D. to APO/FPO or foreign orders. Other foreign orders add $10 for shipping; excess will be refunded.

7-4

Excalibur INDUSTRIES, INC. P.O. Box 98, Newton, N.J. 07860 U.S.A.

QTY.	DESCRIPTION, COLOR, SIZE, NAME	PRICE EACH	PRICE

☐ VISA/BA ☐ MASTER CHARGE
☐ MONEY ORDER
☐ PERSONAL CHECK allow 2 weeks to clear
☐ CERTIFIED CHECK
☐ C.O.D. 25% DEPOSIT must accompany order.

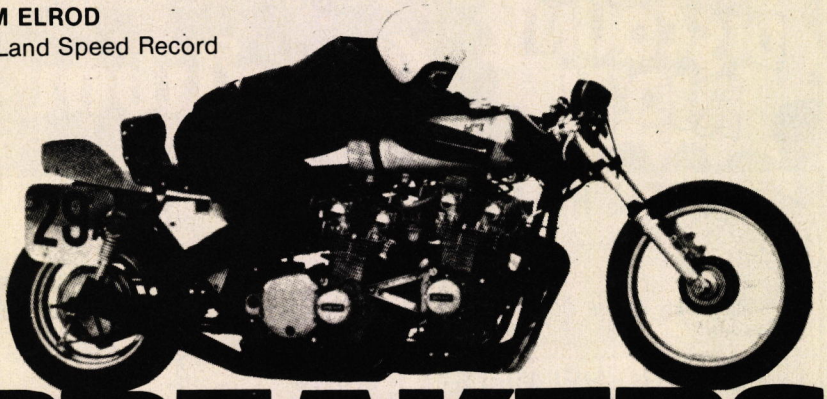
TOTAL
ADD SHIPPING
N.J. RES. ADD 5% SALES TAX
TOTAL

NAME, MODEL, YEAR _____
NAME _____
ACCOUNT NUMBER _____
ADDRESS _____
EXPIRATION DATE _____
CITY, STATE, ZIP _____
SIGNATURE _____
PHONE _____

©1980 EXCALIBUR INDUSTRIES INC.

THE RECORD BREAKERS

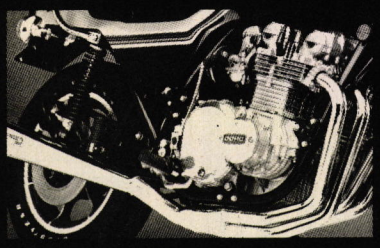
TOM ELROD
— Land Speed Record



From the BONNEVILLE land speed record to the ILLINOIS ¼ mile nationals and the EUROPEAN-INTERNATIONAL side car races, ALPHABET PRO-formance headers are PRO-forming with the winners.

ALPHABET PRO-formance proven headers and RAM-FLO Air Filters are designed to build winners.

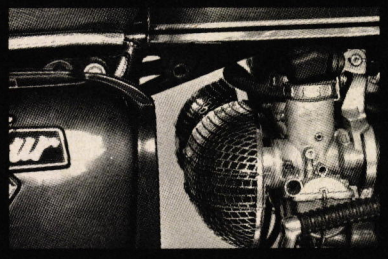
ALPHABET has the facilities and experience to make your bike perform, even like the PRO'S.



SHOWN:
KAWASAKI KZ 1000,4 into 1, with megaphone muffler $184.95

4 into 1's
AVAILABLE for: YAMAHA — XS11
HONDA — 500-550-750 & GL 1000
SUZUKI — GS550-GS750-GS850 & GS1000
KAWASAKI — 650-900 & 1000

RAM-FLO Air Filters (shown on Honda) High filtering efficiency with minimal restriction to air flow. $42.95 pair



1979 BONNEVILLE RECORDS

NAME	CLASS	RECORD	BUILT BY
JOHN HAIDER	MPS-AG-1300	174.513	Tom Elrod & Co., Austin, Texas
	A-AG-1300	167.971	
TOM SAUTER	A-AG-2000	161.929	H.P. International, Garden Grove, CA
TOM ELROD	A-AB-1300	184.701	Tom Elrod & Co., Austin, Texas
	A-AG-3000	200.002	

SEND FOR FREE PRODUCTS BROCHURE

SEE YOUR FAVORITE DEALER or Call Direct

ALPHABET HEADERS
12572 "D" Western Avenue
Garden Grove, CA 92641
714/897-3561

improvement over last year's," he says, "but other things have been changed also, so it's hard to tell. At last year's 125 USGP the water-cooled bike that Everts rode and the air-cooled bike that Myerscough rode seemed fairly equal, and neither faded at the end of the race. I think we need to have the bike a while longer before we can reach its full potential." Adds Myerscough himself, "We never really rode the air-cooled Suzuki against the water-cooled one on the same day under the same conditions. But the new bike feels strong. I guess we'll know better after some of the hot summer races."

At this point it's hard to know if water-cooled bikes will prove to be just another frivolous dead-end development like suspensions with 15 inches of travel. It could be these bikes have reached the boundaries of technology and will find so many obstacles that a retreat is necessary. Still, such a retreat seems unlikely, because all the major MX-bike builders are committed to watercooling. As Honda's Lindstrom argues, "Sure, there are pluses and minuses to watercooling; there are with any new development. It may take one or two years to determine the potential of the system, to exploit all the advantages. Maybe it will not work out. But progress only comes by trying, and we need the opportunity to try new ideas if we are to improve motorcycles."

So in the end, it isn't really a question of whether motocross bikes need the long drink of water they're getting this year. They're going to have coolant poured down their throats whether they like it or not. —*Terry Whytal*

NO IFS, ANDS, OR BUTTS.

When you see this sign in the forest, make sure you grind your cigarette out on a rock, or take it apart, scattering the tobacco and paper in the dirt. Even the smallest living ember left in brush, can come alive to start a forest fire.

So when you come across a No Smoking sign, remember, Smokey doesn't want to hear any ifs, ands, or butts.

A Public Service of This Magazine and The Advertising Council.

The Hillclimbers

Over the top with nitro.

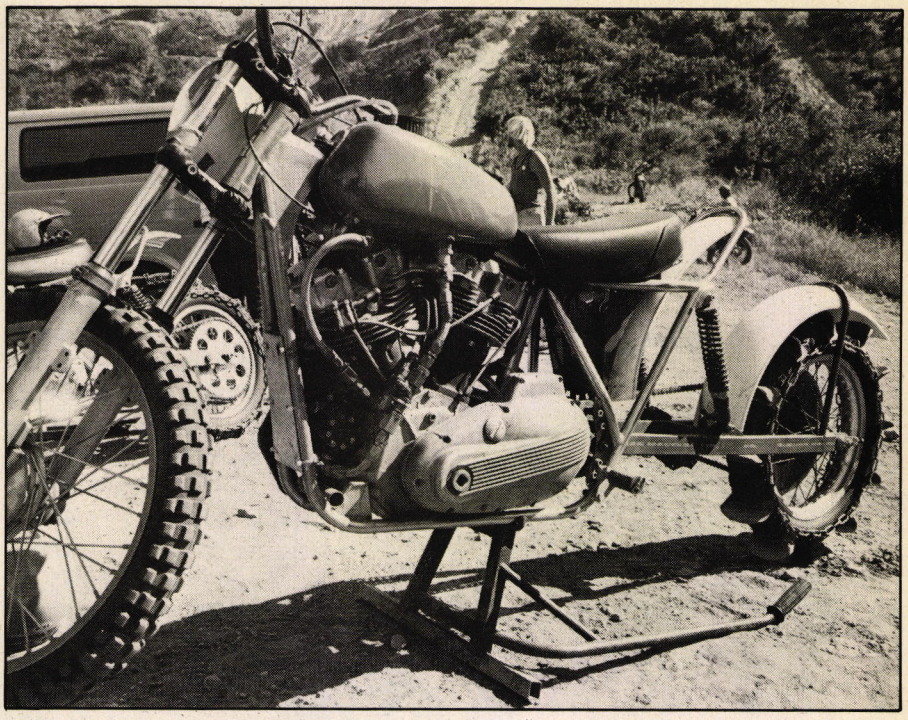
• From motorcycling's infancy, the excitement felt after cresting a steep hill has been a universal experience. Men and motorcycles still climb hills, and the sport of hillclimbing has crowned AMA National champions for years, but it remains a poor cousin to the rest of off-road racing, largely ignored by the media, the manufacturers and the public. But the men who climb mountains with their motorcycles continue undaunted to refine and develop their machinery. And so sophisticated has the sport become that most competition hillsides must be equipped with timing lights in order to determine the day's winner.

A hillclimb is like a dragstrip to the sky. The bikes pause at the timeing light, stage and then launch themselves up the hill amidst smoke and dust. Ledges, ruts and rocky moonscapes created by the hillclimb bikes' chain-wrapped rear tires all conspire to defeat the hillclimb bike and rider.

Ed Shavers is typical of the men who regularly pit themselves against hills and his 800cc Triumph twin is typical of the bikes. Shavers says, "I've been climbing for 10 years and I still really enjoy it. My Triumph is a pretty good old bike, I run nitro in the motor and get about 100 horsepower from it. The bike weighs in at 275 pounds." With Shavers' steady hand at the controls, his 68-inch wheelbase bike has been known to crest quite a few hills, but he's already bragging about his next hillclimb project—a supercharged Kawasaki Z-1 engine.

One of the most successful hillclimbers in recent years, Ron True, also uses a Triumph twin to power his bike, but the resemblance to any-

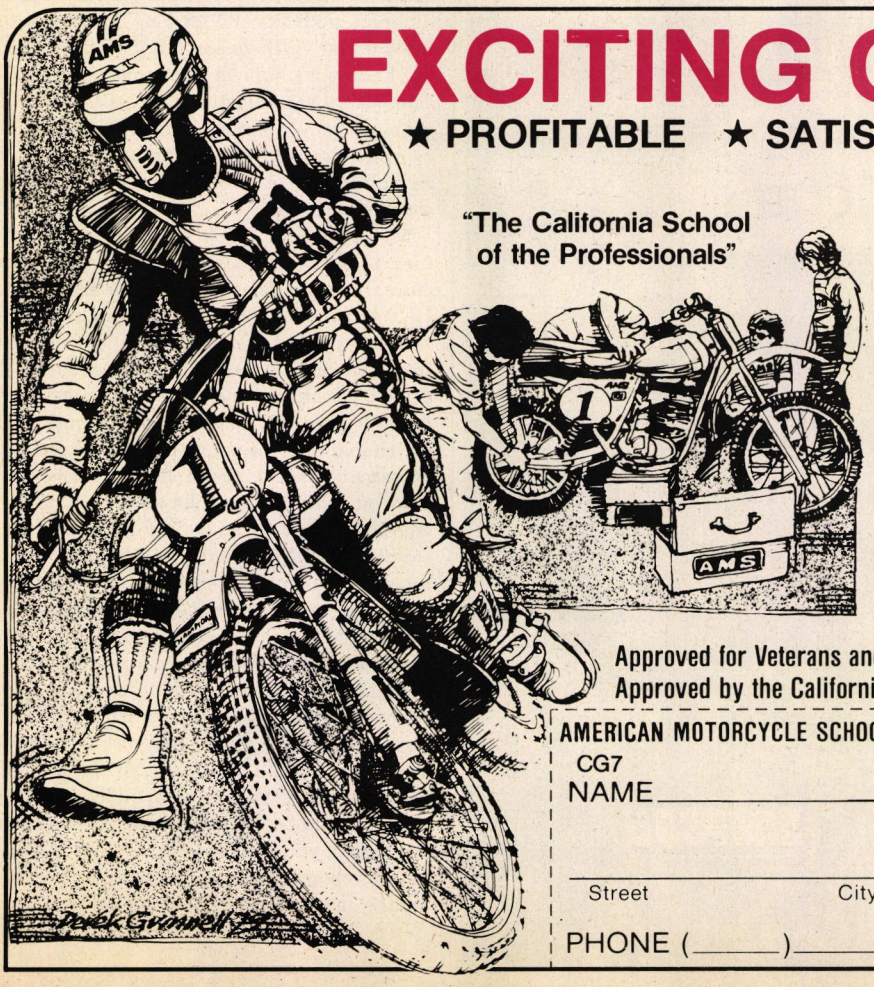
Continued



PHOTOGRAPHY: TERRY WHYTAL

Bjorkman's fuel-injected Harley

Paddling its way over the top.



EXCITING CAREERS

★ PROFITABLE ★ SATISFYING ★ REWARDING

"The California School of the Professionals"

MOTORCYCLE MECHANICS

If you're serious about becoming a top-notch motorcycle mechanic you'll want the best possible training available. You can't afford second best and neither can we. If you think you have what it takes to become a *professional*..

CALL TOLL FREE

1-800-423-4678

Calif. Residents Call Collect (213) 944-0123

Approved for Veterans and Eligible Persons

Approved by the California State Superintendent of Public Instruction

AMERICAN MOTORCYCLE SCHOOLS 10025 Shoemaker Ave., Santa Fe Springs, CA 90670

CG7

NAME _____ AGE _____

Street City State Zip

PHONE (____) _____ ☐ V.A

AMS AMERICAN MOTORCYCLE SCHOOLS, INC.

TAKE NUMBER ONE HOME WITH YOU!

Big bore motors need an exhaust system designed specifically to flow large volumes efficiently. The CM PERFORMANCE exhaust system was designed for Pro Stock drag racing. It works so well that two national championships were won and more national wins were recorded with this system than any other manufacturers.

Now you can get this high level of performance for your street or race bike.

While others are making claims, we're winning races!

CM PERFORMANCE exhaust systems are available for all Kawasaki Z-1 and KZ1000 models and Suzuki GS1000, 850 and 750.

For a complete catalog of race proven high performance accessories send $2.

performance products
cm

570 Dunksferry Rd.
Bensalem, PA. 19020
Dept. Dept. CG7
(215) 638-0323

HEAD OF THE CLASS

Simpson Model 60.
For the demanding street, touring or competition rider who wants classic, full coverage styling and a lightweight feel that defies comparison. At dealers who carry the finest. Model 60 Meets Snell '75 Certification. Send $1.00 for 1980 color catalog to:

SIMPSON

Simpson Sports
22630 S. Normandie Ave.
Torrance, CA 90502
Dept. CG (213) 320-2204

thing you've ever seen before stops there. A Sonny Rout 780cc kit has transformed the engine and a nitro fuel mixture of 70 percent transforms the power curve. The chassis resembles many of the Triumph-powered flat-trackers found across the nation with one major exception—the swingarm extends a foot beyond the original. A long swingarm provides the added stability that hillclimb bikes need to keep from looping in a long climb. True has even slotted his axle mount to provide five inches of adjustment so he can compensate for different gradients and terrain. True wants to build a Harley-Davidson XR750 hillclimber, but he says it's difficult to sustain his enthusiasm: "It's tough sometimes because you don't get much help or recognition. I've won the Widowmaker in Utah the last three times, but I haven't gotten any publicity and it's something we all need."

Many hillclimb riders only now are beginning to think about large-displacement engines, but John Bjorkman has already acted. He's punched a 1200cc Harley twin out to 1468cc, adapted it to Hilborn fuel injection from a truck and then fed it a fuel composed of equal parts alcohol and nitro. Bjorkman's bike doesn't use a transmission, just a push-pull clutch that puts the ponies right to the ground. Bjorkman's bike is probably the longest and heaviest bike cresting hills these days with a wheelbase of 82 inches and 325 pounds of motorcycle. Bjorkman says, "I'm spotting the other guys about 50 pounds or more, but my bike puts out enough horsepower to use a steel paddle tire instead of chains, and that really makes a big difference in traction."

Bjorkman has certainly built one of the most serious hillclimb bikes anywhere, but typically, this hillclimb man doesn't really want to defeat every mountain, "I like the tough hills, not the easy ones that everybody clears. I like the kind you can't climb, and instead the guy who gets the highest wins." Just as in the early days of motorcycling, the only important hills to climb are the ones that make you struggle.

—Terry Whytal

That's E for Endurance

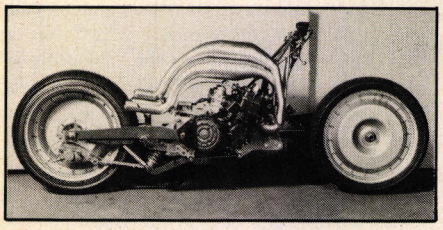
New plans for the experimental Elf E.

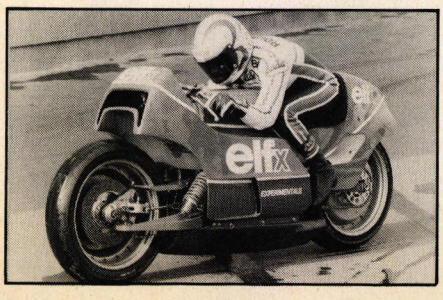
• The Elf X created quite a stir when it was completed in the summer of 1978, what with its unique automotive-like steering linkage, three-piece wheels, radical aerodynamics and supposed impressive power-to-weight ratio. But even after changing its name to the Elf E, it has been plagued by spooky handling, numerous low-speed crashes and lots of weight.

Now that the 750cc formula for GP bikes has disappeared, the Elf E would seem to be obsolete, but it's undergone an engine change to complete a new assignment as a competitive endurance racer. To this end, the Yamaha OW31 two-stroke engine has been eased out of the chassis and a Honda RCB1000 is ready to take its place after the necessary modifications are completed. And instead of rider Michel Rougerie, Michel Frutschi is ready to take the saddle after his second-place finish in the 750 championship last year.

Most importantly for the bike's future, however, the company hired by Elf to design, develop and race the bike (called ARVOR) has hired Alain Chaligne, a former ISDT gold medalist and aircraft development mechanic to manage the program to its logical conclusion. Andre de Cortanze, a former research engineer for Ferrari who originally designed the Elf X, will continue to aid the effort as a consultant in whatever time he has left over from his duties in Renault's research center.

Though the endurance racing championship may permit the Elf bike to be more competitive than on the GP circuit, the replacement of the Yamaha engine with the Honda won't solve the motorcycle's problems, for it has been the chassis not the motor that has proven troublesome. Still, if hope is proportional to the amount of money available to finance a program, the future should be bright for the Elf E team—because money they have. *—D.O. Cozzi*

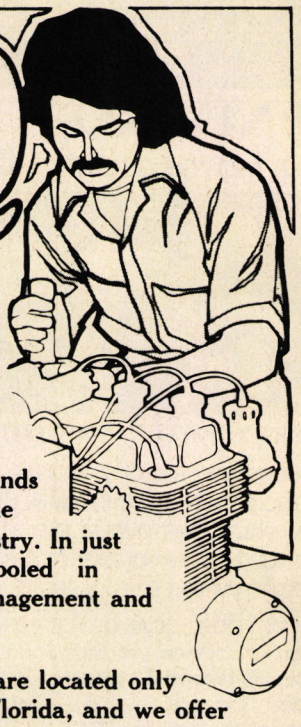




Continued

LEARN THEN EARN

BE A PRO



Stewart Graham of Canada earned $22,000.00 his first year after graduating as a Certified AMI Motorcycle Mechanic.

Join Stewart Graham and the thousands of other successful AMI graduates in the rewarding and growing motorcycle industry. In just 15 weeks, you are thoroughly schooled in Mechanics-Parts Counterman-Parts Management and Dealership Management.

We are the only genuine AMI. We are located only in beautiful, tropical Daytona Beach, Florida, and we offer 15 week Resident or Home Study Courses.

CALL TOLL FREE 1-800-874-0645

FLA. RES. CALL 904-255-0295 COLLECT

8-7-12

NAME _____ AGE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

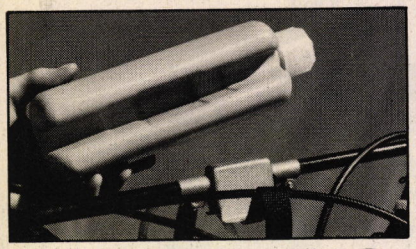
PHONE _____ VET _____ NON VET _____

AMERICAN MOTORCYCLE INSTITUTE
1445 SKYTROOPER ROAD
DAYTONA BEACH, FLA 32014

☐ RESIDENT TRAINING ☐ HOME STUDY

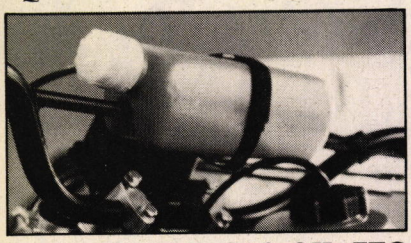
AMERICAN MOTORCYCLE INSTITUTE AMI DAYTONA BEACH, FLA.

TUMBLEWEED ENT. INC.



ENDURO-JUG

1 QT. MOTORCYCLE CANTEEN

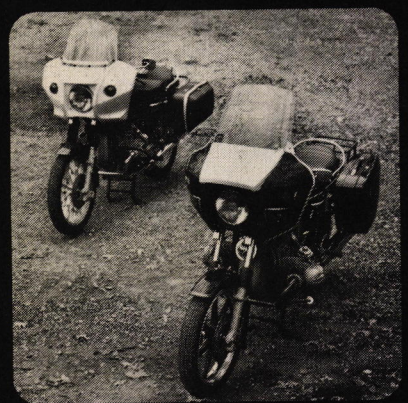


CARRY: WATER, GAS, OIL, ETC.

HANDIEST NEW PRODUCT OF THE YEAR... NO MORE BRUISED KIDNEYS FROM FALLING ON A WAIST-CARRIED CANTEEN. EASY TO INSTALL ON YOUR HANDLEBARS CROSSBRACE. COLORS: WHITE, I.T. BLUE, X.R. RED, P.E. YELLOW.

VISIT YOUR LOCAL DEALER; if they don't stock them yet, send $13.99 to: **Tumbleweed Enterprise,** P.O. Box 3607, Torrance, CA 90510, Dist. & Dealer info available (213) 373-7044.

Craven and Euro-Design equipment fits BMW and all other foreign touring cycles.



Fiberglass panniers, leather panniers, fiberglass topboxes, laminated glass fiber fairings, and more.

Send $1.00 for your catalog and order direct from Tom Andersen, Dept. 80-03, P.O. Box 472, Freeport, IL 61032. Call (815)235-2747.

Testing the Prototypes

They do it all for you.

Breker tests KX aerodynamics

"Break 'em or die" is his motto.

• Given the sophisticated techniques the Japanese factories use in the design and construction of modern off-road competition motorcycles, you might have the impression that hordes of dirt bikes are produced at the stroke of a computer keyboard. The manufacturers do indeed rely heavily on calculators and a mix of microprocessors to engineer today's technomarvels, but the step from drawing board to showroom floor still depends on good old-fashioned Yankee trial-and-error testing.

The strategy that Yamaha uses to get its dirt bikes ready for the U.S. market is typical. Yamaha's Joe Wilson of Competition Services explains, "We use three different steps. First, we test the original prototypes as they are sent over from Japan. We give the factory a little feedback and sometimes send the bike back. Then comes the pre-production model that we work over pretty thoroughly with endurance testing. And finally the production bike that we still test before they go on the market."

When Yamaha's prototypes arrive, they're usually equipped with fiberglass fenders and sandcast engine cases. They weigh much more than the production units that nine months of constant research and development eventually will produce. That testing is conducted at secret locations around the country or at some of the Southern California cycle parks rented exclusively for testing. In addition to its own test bikes, each manufacturer regularly purchases competitive models from rival manufacturers for comparison testing. The final element of the R&D equation is the development rider, usually a member of the race team, who has two jobs. The first is to evaluate the bikes. The second is to find their limits by riding them until they break. And that's where the trial-and-error part of testing comes in.

Ron Turner is the test rider for Suzuki and he says of his job, "It can be rough sometimes riding a Kawasaki one day, a Maico the next and a Yamaha the third day. We have to find out what works on our bikes as well as the other guys so we have a better understanding of the problems we face." Turner is probably the most experienced test rider in the U.S. today, and he feels his job is very important. "A lot of what a Suzuki motocross bike is today is because of us. We find out what works and what breaks and we experiment with different ideas. They listen to what we say in Japan and the bike the public buys has a lot of our designs."

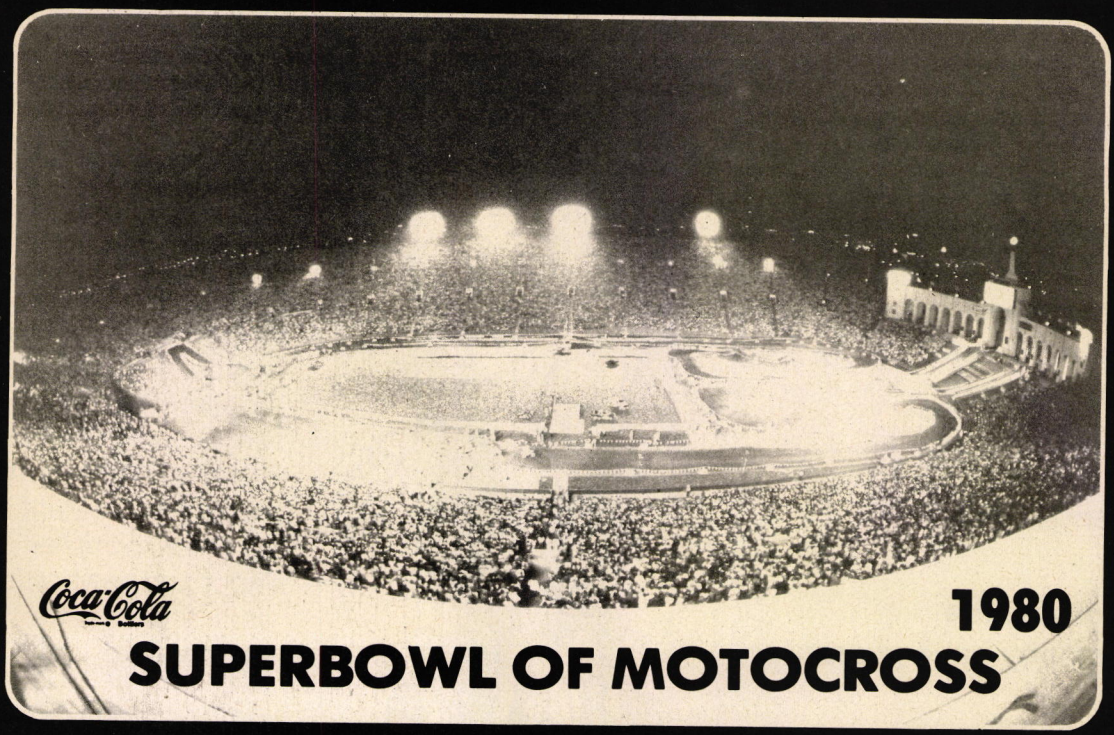
Continued

LOS ANGELES COLISEUM

TWO DAYS OF AMA SANCTIONED SUPERCROSS SERIES RACING

JULY 12,TH AND 13 TH 1980

BOTH DAYS ARE FINALS
TWO SEPARATE WINNERS!



STADIUM MOTORSPORTS

The ORIGINAL SUPERBOWL OF MOTOCROSS returns for its NINTH year in L.A.! There is only ONE SUPERBOWL and this year you have 2 DAYS of the best AMA Motocross racing in the nation! The world famous SUPERBOWL track — the PERISTYLE JUMP and the TORNADO go up into the stands at BOTH ENDS of the stadium. This is the only AMA Sanctioned SUPERCROSS event you will see in the Coliseum this year — the only time the AMA SUPERCROSS SUPERSTARS will ride the Coliseum.

JULY 12 & 13 — ONE NIGHT AND ONE AFTERNOON OF

AMERICA'S #1 EVENT

ORDER EARLY

THIS YEAR IS GOING TO BE THE BIGGEST EVER!

Orders received after June 30, will be held for pick-up at WILL CALL.

REGULAR TICKET PRICES: Children under 10 years ½ price.

SATURDAY, JULY 12

ADULTS	#	CHILDS	#	TOTALS
$ 9 x		$ 4.50 x		
$12 x		$ 6.00 x	$	
$15 x		$ 7.50 x		
$18 x		$ 9.00 x		

Handling charge must be included for return mail or tickets will be held for pick-up at WILL CALL. (Pay only one handling charge per order) 1.00

(Check or Money Order) $ _____

SUNDAY, JULY 13

ADULTS	#	CHILDS	#	TOTALS
$ 9 x		$ 4.50 x		
$12 x		$ 6.00 x	$	
$15 x		$ 7.50 x		
$18 x		$ 9.00 x		

Handling charge must be included for return mail or tickets will be held for pick-up at WILL CALL. (Pay only one handling charge per order.) 1.00

(Check or Money Order) $ _____

VISA ☐ MASTERCHARGE ☐ # _____ Exp. Date _____

Name _____ Phone _____

Address _____ City _____ State _____ Zip _____

Make checks payable and mail to: Coca-Cola Superbowl of Motocross, P.O. Box 1523, Laguna Beach, CA 92651.

For more info call: (714) 752-0503. LA203

"Coca-Cola" and "Coke" are registered trademarks which identify the same product of the Coca-Cola Company.

PLUS... AN ALL WEEKEND LONG HARLEY DAVIDSON MOTORCYLE SHOW "ARTISTRY IN IRON"

Power up your Bike

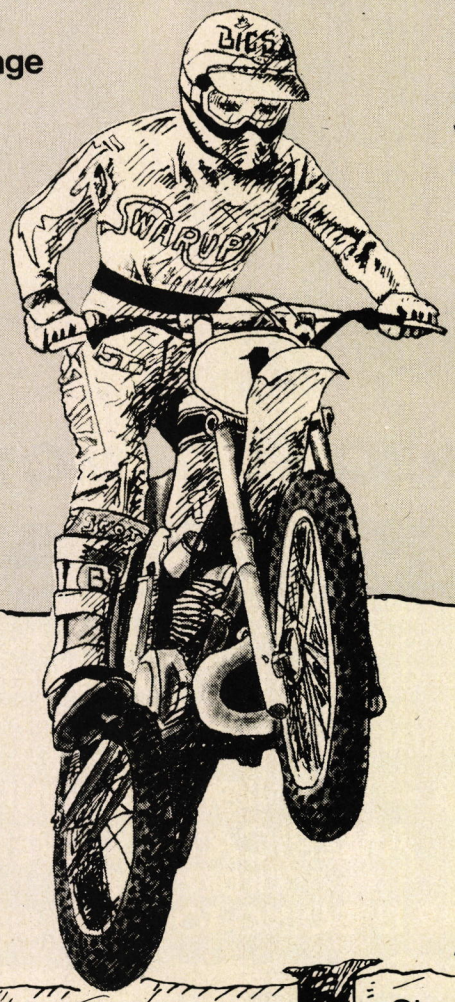
with SWARUP

LOOK AT THESE FEATURES!

10-20% increase in power
10-20% increased fuel economy
Increased Torque though RPM range
Prevents overheating
Rotation-smooth and steady
Less carbon deposit
Easy starting
Less pollution
Prolongs engine life

Plus!

A lifetime guarantee
A 60 day money back guarantee



It's Here! A static swirl mixer which fits in the intake manifold of your motorcycle or automobile. With its unique arrangement of guiding fins, the SWARUP rotates the air-fuel mixture in different directions to form complex swirls of vaporized gas particles which whirl towards the center of the manifold.

NEW! from Tokyo

SWARUP®

Single Carb	$28.95
Twin Carb	$38.95
Triple Carb	$58.95
Four Carb	$68.95
Six Carb	$88.95

SWARUP—A proven Japanese product, based on computer science technology, will add 10-20% to your fuel power! Custom designed for every type of internal combustion engine, the SWARUP is guaranteed to increase power while simultaneously decreasing fuel consumption. Not only does it work to atomize gas particles, but it creates a turbulence in the intake manifold which produces a more efficient burning compound for your engine. This means greater fuel economy, increased power . . . and increased torque for you!

World Wide Patent Pending
Distributor Inquiries Welcome

SEKON

SEKON INTERNATIONAL

SEKON INT'L CORP. OF AMERICA
2210 Wilshire Blvd. Suite 577 CG
Santa Monica, CA 90403 (213) 393-9791

Do you know that while a smooth bore carburetor and the SWARUP both increase the power of your bike, a smooth bore carburetor increases fuel consumption and the SWARUP decreases it?

Do you know that while using the Swarup, if you step up the main jet as a smooth bore carburetor does, not only will you have more power than a smooth bore carburetor, but you still will be consuming the same fuel as the stock carb?

Do you know that the smooth bore carburetor costs nearly $300 for a four cylinder motorcycle, while the SWARUP is less than one quarter of the price? You figure it out.

Do you know that we are selling more SWARUPs than smooth bore carburetors in the Japanese after market? (By the way, you are aware of who makes the bikes?)

We do not disagree with the function of a smooth bore carburetor, we've just found a better and easier way!

A Glimpse of the Future

SWARUP®

We Challenge Smooth Bore Carburetors for Power!

The SWARUP is the best cost-performance device on the market today and is the only device which is capable of burning a wide range of air-fuel mixture in your engine. This gives you a wider play between power and fuel consumption!

By simple installation of the SWARUP, you get an increase of more than 10% in power with better fuel economy. A further increase in power can be made by stepping up the main jet. If you step down the main jet, a leaner air-fuel mixture for better fuel economy can be obtained while maintaining stock power. Again, the SWARUP is the only device to give you this wide range burning.

When you install a high cam shaft, a big bore, or a low resistant air-filter, usually you will have a hard time getting a good setting of your carburetor. Because of the excellent performance of SWARUP, a smooth setting will be very simple, even if you are not a professional in installing high performance products.

Finally, the E.P.A. standard for all 1980 models will decrease their performance. The SWARUP can burn an even leaner air-fuel mixture than that required standard. That means that it can increase the performance for the latest and future models or even any racer that you build. The SWARUP — A Glimpse of the Future!

Single Carb . . . $28.95
Twin Carb $38.95
Triple Carb . . . $58.95
Four Carb $68.95
Six Carb $88.95

"SEKON, Second to None!"

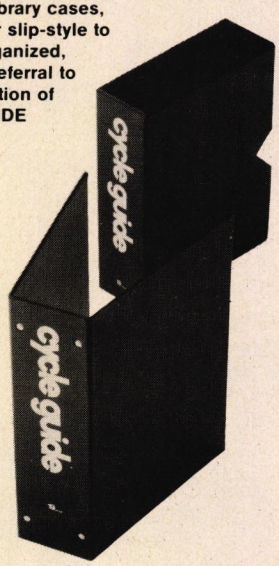
SEKON

Your Copies of

CYCLE GUIDE

Handsomely Displayed and Protected.

Use these attractively designed library cases, in binder or slip-style to keep an organized, preserved referral to your collection of CYCLE GUIDE issues.



Each case or binder holds up to 12 issues of your valued CYCLE GUIDE

These durable organizers come in rich burgandy and are crafted in handsome simulated leather.

LIBRARY CASES are $4.95 ea., 3 for $14.00, and 6 for $24.00. BINDERS are $6.50 ea., 3 for $18.75, and 6 for $36.00.

Post paid in USA. Add $1.00 per unit for orders outside USA.

Satisfaction guaranteed or money back. Allow 5 weeks for delivery.

CYCLE GUIDE, P.O. BOX 5120, PHILADELPHIA, PA. 19141

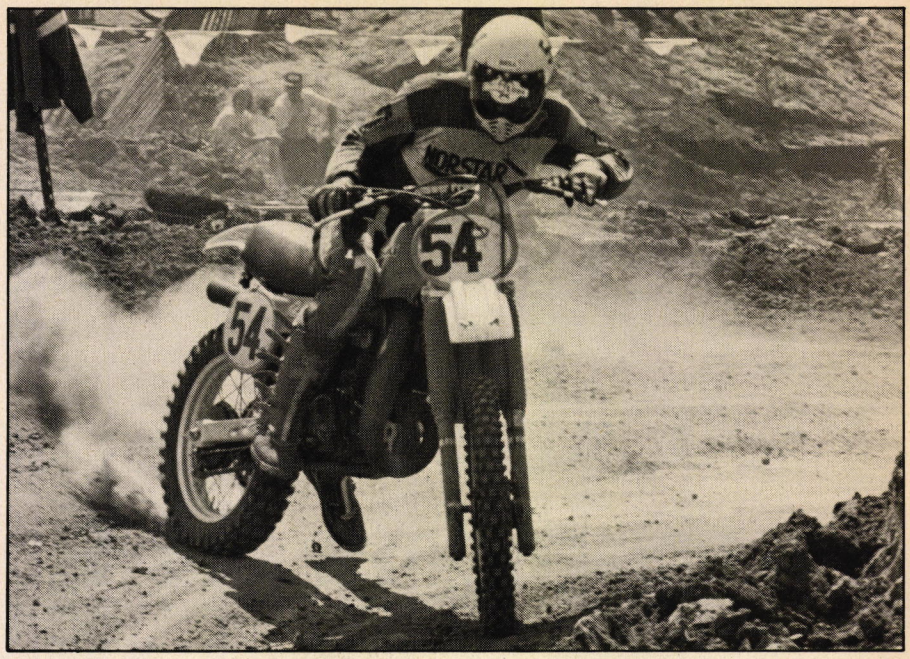
Please send me ☐ CYCLE GUIDE binders $6.50 ea., ☐ 3 for $18.75, ☐ 6 for $36.00 ☐ slip cases $4.95 ea, ☐ 3 for $14.00, ☐ 6 for $24.00

Orders outside USA add $1.00 per file for postage and handling. Payment must accompany order.

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____



Often, the factory isn't really interested in compliments but suggestions for improvements instead. And that usually comes from test riding—lots of it. Joe Wilson of Yamaha comments, "We have one dyno—in Japan they have 50. They've also got engineers and computers. That's not the kind of testing we do, though, because the factory wants to know how the bike works on the track, under real racing conditions. And what we really try to find out is not how good a bike is, but how bad."

Goat Breker has become the test rider for Kawasaki, primarily because of his ability to cross rough terrain at high speeds with little regard for his personal safety. Breker says of his job, "They want me to break the bikes, find out what's wrong. Sometimes on motocross bikes and often on enduro models, I just go out riding and riding. And then the mechanics check out the bikes to find the trouble spots. Right now, for instance, I'm riding a bike with little punch marks in the frame near angles or welds or bends. They've measured the distances before I ride and then measure them after to see if any problems are developing."

The idea of simply riding an off-road bike for eight hours a day may seem attractive, but the test riders suggest it's not all fun and games. Breker remarks, "I ride every day for hours and hours for testing. Then I race every weekend, often on the same tracks and in three classes. Sometimes you just get too burned-out." Turner of Suzuki agrees, "We ride 80 laps a day when we test at Suzuki—20 laps, then refuel, then 20 more. All day. It's really hard sometimes."

If you pay attention the next time you see a factory truck at some obscure track, you might see some of what it takes to improve the breed each year. And the next time you make some snarky comments about how motocross bikes are developed by computers, make sure Goat Breker and Ron Turner aren't around to hear you.

—Terry Whytal

Turner and Breker meet on the track

Toughness counts as much a speed.

Continued

Accelerate With The TISON Power!

What It Is And How It Works

An important modern concept of engine technology is to improve combustion by creating a more efficient air-fuel mixture. The Japanese automotive and motorcycle industries have proven that generating swirls in the air-fuel mixture increases fuel economy and horsepower, while decreasing polluting exhausts.

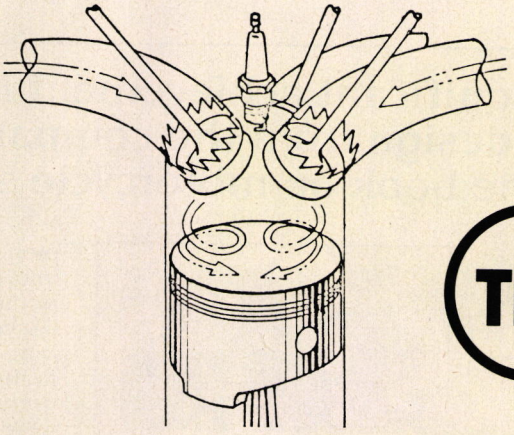
Sekon International has found that the best mixing procedure is to swirl the air-fuel mixture partially in different directions. The Swarup, which was introduced to the U.S. market several months ago, utilizes this procedure by generating swirls in the inlet manifold.

Another development from Sekon, the TISON Engine (Twin-Inlet Swirl Ong Engine), generates the same multiple swirls in the combustion chamber, using two static-swirl mixers placed under the valve sheets of a twin-inlet valve engine. Each static mixer will generate a single swirl. Both mixers combined form twin-inlet swirls rotating in opposite directions. Under the high temperature and high pressure conditions in the combustion chamber, the multiple swirls will produce a highly vaporized air-fuel mixture. The multiple swirls, rotating across the spark plug, also cause the transfer of flame to rapidly burn the air-fuel mixture, forming high and smooth power output.

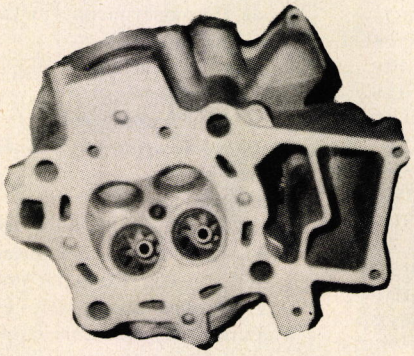
TISON—A New Decade

Sekon International announces its success in testing its first experimental TISON Engine using a Honda CX 500. With an increase of 20-30% in power, the fuel economy increases 20-30%. Overall performance also significantly improves.

The Japanese have proven that the stronger a turbulence is generated in the combustion chamber, the more the performance is improved. The multiple swirl TISON Engine, with its arrangement of static fins, is presently the best designed engine for increasing the efficiency of engines.



Patent Pending



Sekon International can transform any four-stroke engine into a TISON Engine. Please consult your dealer and contact us before you send in your cylinder head. All racers are welcome to share or compete against the TISON power.

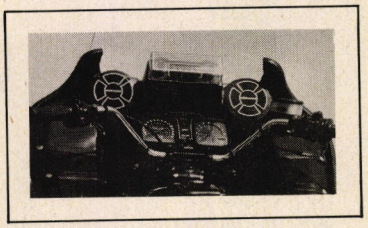
"SEKON, Second to None!"

SEKON INT'L. CORP. OF AMERICA • *2210 Wilshire Blvd., Suite 577CG, Santa Monica, CA 90403* *(213) 393-9791 TELEX 182014*

OUT OF SIGHT

Cycle Sound's concealed antenna is worth a closer look.

A significant achievement in antenna design from the company that wrote the book on motorcycle stereo



We'd like to show you the most advanced and sophisticated AM-FM cycle antenna on the market. But we can't — because it's almost invisible. Which means there's nothing to obstruct your line of vision, and no awkward protrusions that could break or cause injury. Furthermore, it's vandalproof. After all, who's going to steal what he can't see?

Performance? Outstanding. This antenna is the product of extensive research by the Cycle Sound engineering staff, whose pioneering efforts in cycle stereophonics have established us as the undisputed leader in the field. Hundreds of patterns were tested under every conceivable condition to determine the most efficient design. The result: a unique folded loop configuration with defined orientation that incorporates 62" of wire. Reception is excellent almost anywhere.

For a demonstration of this remarkable antenna, visit your local Cycle Sound dealer. You'll get the message, loud and clear.

(((cycle sound)))

P.O. BOX 418 • BULVERDE, TEXAS 78163 • 512-438-2211

PROJECT BOSS STOCK:

The Cost Factor

On your mark, get set . . . spend.

• You already know that Box Stock racing is fun. You already know it's good racing. But maybe you're still a little worried about what it costs. Don't worry. We'll tell you.

The first thing you should do is build your racing program around a winning machine. So our breakdown of a single season in 410cc Box Stock is built around a Yamaha RD400F Daytona Special. Since Yamaha doesn't import the RD400 to the U.S. this year, we based its $1500 price on what *CG*'s Michael Jordan paid for his 1980 racer. Our parts prices are based upon what we paid at Rustan's Motorcycle Supply in Midway City, California and T&O Yamaha in Lomita, California.

Yamaha RD400F Daytona Special	$1500.00
S&W shocks with 80 lb/in² springs	79.95
Dick's Cycle West handlebar	24.95
Number plates (3)	5.85
Nippondenso spark plugs, W31ES-GU (2)	5.00
Yamalube R injector oil (pint)	2.00
Torco 80 transmission oil (quart)	3.25
Numbers (9)	3.15
Torco 30W fork oil (pint)	1.75
Dunlop K81R tires (2)	100.00

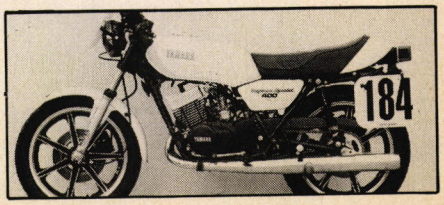
So your initial investment will be $1725.90. But that doesn't account for your race-to-race expenses. They generally include fresh spark plugs and injector oil for every race weekend, new transmission oil every four or five races and new tires every 400 to 500 racing miles.

Of course, that's just the amount of money it takes to equip the motorcycle. You also should count the money it takes to get *you* ready for the races. To begin with, there's your license and entry fee, then your helmet, leathers, boots and gloves. Using my own equipment as a guide, the money mounts up this way:

Racing license	$20.00
Entry fee (one race)	25.00
Simpson 60 helmet (Snell 1975-approved)	100.00
Bates leathers (approximate)	350.00
Castre gloves	24.95
Hi-Point boots	75.00

Once you total up your own equipment, it comes to $549.95, which means it takes that, plus the bike's cost, to put you on the track—$2275.85—and about $50 for every race. And I can't think of any roadracing class that lets you win trophies as economically.

—Dain Gingerelli



PRE-RACE PSYCH-JOB

A mental war with no medals given.

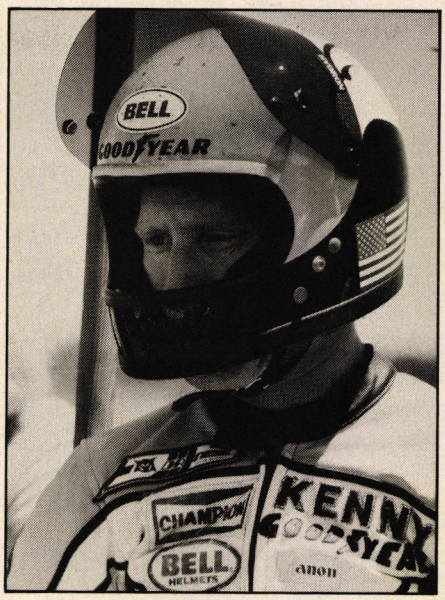
• A tiny bead of sweat runs down the bridge of your nose as you snap your helmet visor closed. Suddenly you hear an echo; it's you, breathing methodically. Waiting—waiting for the start of the race. While you wait, your hands feel like moist sponges wrapped in warm leather, and you have to go to the bathroom—again. The sit-down kind.

You're nervous.

While you wait you might ask yourself what you're doing out there on the starting grid. You're psyching-out, the worst thing you can do at this time of race day. You should be psyching-out the other racers instead, and giving yourself the psych-*up* job.

Every racer plays the psych game. If he isn't psyching himself up, he is busy psyching-out the opposition. It's a mental game of cool nerves and crafty maneuvering. And if you don't think it's a common strategy, scan the pre-grid before your next race. You'll see riders yawning, staring down at the gas tank or out onto the track. Maybe they'll be playing it cool and chatting with their rivals. Actually, these riders either are scared to death, nervous as hell or putting up a front.

The psych-out game actually begins in the garage, when you prep your motorcycle for the race. Even simple things like your bike's paint scheme or placement of sponsor decals can have a psychological effect on the other players.



For instance, a bike painted with a wimpy color won't intimidate other racers like a jet-black motorcycle spiced with the Devil's own flames. And displaying your sponsor decals in an organized fashion tells the other racers that you have your program together. Even though you are a local club racer, you should present yourself as a serious threat. Because if you're going

Continued

The Dualock Automatic Turnsignal Canceler turns you off!

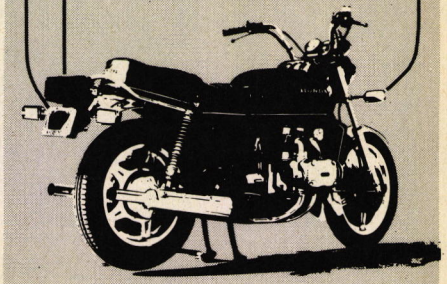
Avoid turning a signal into a road hazard with this easily installed solid state canceler. With only three wires to connect (no cutting or splicing!) this sealed unit installs in minutes. The adjustable timer turns off your lights, even if you forget. Only $24.95.

The Dualock Dualarm is a loudmouth when you're not there!

Deter thieves with this weatherproof self-contained alarm. A tough ABS housing protects the solid state adjustable sensor sounding off through dual horns–after 45 seconds of 110db noise, the alarm automatically rearms. With interlock switches behind the chrome-plated steel cover and impossible-to-remove mounting hardware, the Dualarm is tamperproof. Only $49.95.

The Dualock Multi-Brite Taillight Coupler lights up your life!

Improve visibility and safety with this simply wired taillight coupler (only 7 color-coded wires!). Turns rear signals into running and brake lights, without interfering with turn-signal functioning. The solid state Multi-Brite–a tiny sealed package–a big improvement in your safety. Only $24.95.



See your local dealer or write for information and order form to:

DUALOCK 211B South Whisman Rd Mountain View, CA 94041 (415) 969-3627

SUPER Starr FRAME MOUNT

COMPLETE $239.95

- Mounting Bracket
- All Fiberglass
- Windshield
- Running Lights
- Turn Signals
- Pocket Covers w/Pouch
- Pocket Liner
- Lighter
- Black, White, Silver
- Polyurethane Paint
- Decals
- 9-pin Wiring Harness

Optional. Same windshields as below for Lee's Starr, same price

REPLACEMENT WINDSHIELDS FOR WINDJAMMER FAIRINGS®

Standard Size	24.95
Standard Size w/Snap Vents	29.95
Extra Tall Size 2"	27.95
Extra Tall Size w/Snap Vents	34.95
Hand Savers	29.95
Lower Wind & Rain Guards	13.95

LEE'S

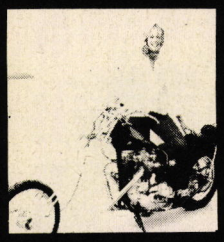
master charge BANKAMERICARD

P.O. Box 27552, TUCSON, ARIZONA 85726
WRITE OR CALL (602) 294-5875

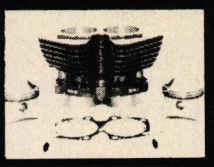
TRIUMPH OWNERS!

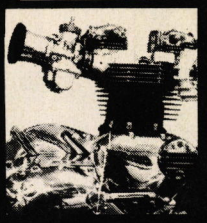
M.A.P. CYCLE ENTERPRISE HAS EVERYTHING FOR THE TRIUMPH OWNER!

• SOLE DISTRIBUTOR OF MORGO 750 Kits

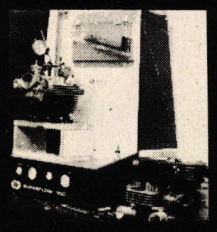


•TOTAL PERFORMANCE PACKAGES • CUSTOM GOODIES • FLOW BENCH BASED TRIUMPH HEAD PORTING SERVICE





SEND $2.00 to:



CATALOG Triumph Tuning tips guide and motorcycle performance facts handbook is here! A dynamite 34 page catalog handbook with not only every part and accessory you need or can dream of for your Limey Scooter but a selection covering almost every aspect of motorcycle performance as a total concept plus 25 Triumph Tuning Tips.

6567 54th Ave. No.
St. Petersburg, Fla. 33709
Phone (813) 546-9442

M.A.P. Cycle Enterprises

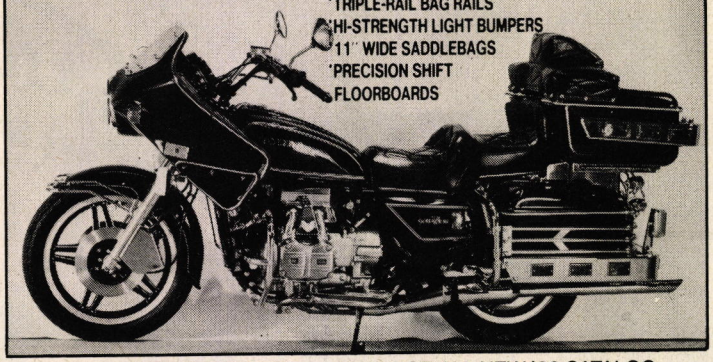
the best touring equipment comes from

CUSTOM DRESSERS ALL NEW '80 Catalog

COMPLETE SETUPS AVAILABLE NOW FOR:

HONDA GL1100
HONDA GL1000
HONDA CB900L
HONDA CBX
HONDA CX500 (all models)
YAMAHA XS11
YAMAHA XS750
SUZUKI GS1100
SUZUKI GS1000
SUZUKI GS850
SUZUKI GS750
KAWASAKI 900–1000
1000 ST & KZ1300
MOTOGUZZI 850 & 1000

*ALL NEW "FREE FLOW" FAIRING WITH BUILT IN RADIO HOUSING
*"EASY CLEAN" CHROME FAIRING PROTECTOR
*FAIRING-SADDLEBAGS & TOURBOX ARE HAND-LAID FIBERGLASS—HI-STRENGTH—Light weight
*TRIPLE-RAIL BAG RAILS
*HI-STRENGTH LIGHT BUMPERS
*11" WIDE SADDLEBAGS
*PRECISION SHIFT FLOORBOARDS

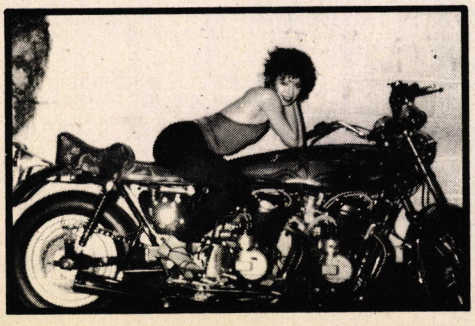


NEW PRODUCTS FOR '80 Send $3.00 FOR ALL NEW '80 CATALOG
FULL amount Refunded with FIRST ORDER. DEALERS WRITE on letterhead

6421 Cox Ave., Dept CG , OKLAHOMA CITY, OKLAHOMA 73149 405-672-7564

CYCLONE COMPETITION

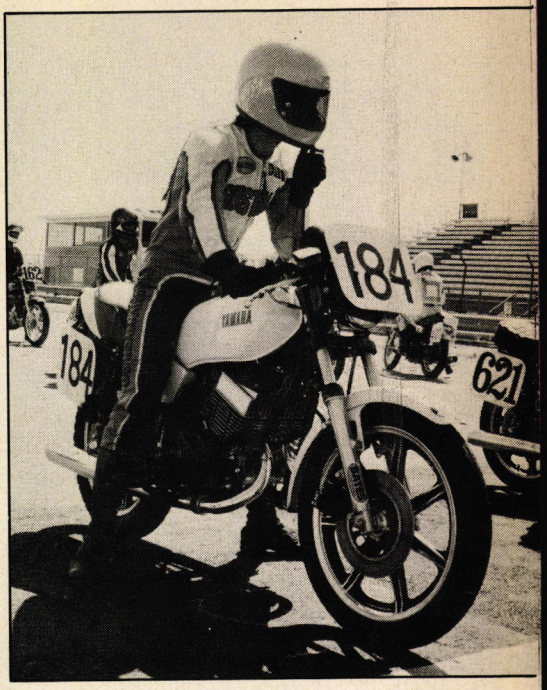
QUALITY PARTS & ACCESSORIES



*R.C. ENG. *.M.T.C. ENG.
*CIR CYCLE PRODUCTS
*TIRES—MICHELIN—CONTINENTAL—GOODYEAR
*SHOCKS—EXHAUST SYSTEMS

KAWASAKI—SUZUKI
HONDA—SPECIALISTS

CYCLONE COMPETITION
1286 Utica Avenue, Blyn., N.Y. 11203:
TEL. (212) 451-2331



to be a winner, you might as well think like one. And have everyone believe it, too.

You also have to develop a pre-race psychology and give yourself a mental edge on the competition. The all-important racer's edge for pre-race psych-up and psych-out is the race-face. Gary Nixon and Kenny Roberts are two professionals who have pole-sitting racefaces. Each has his own style of pre-race psych-up, and both are unusual and interesting.

Nixon had a way of isolating himself from other racers, photographers and even his tuner once he zipped up his leathers and waited for the signal to race. His square jaw closed shut and looked like a solid piece of granite attached to his skull. You almost could see the fire develop in his eyes. Then he'd set his diamond-striped Bell helmet on the ground at pre-grid, sit down on top of it and stare toward the first turn. Nobody, and I mean nobody, disturbed him during this pre-race ritual. He was busy psyching himself up—and his opponents out.

Roberts takes a conservative and perhaps more businesslike approach. He never leaves the side of tuner Kel Carruthers, who sits or stands holding the bike for Roberts, patiently waiting for the five-minute warning. During this time, KR has zipped his leathers, and you can almost detect the presence of a red "S" beneath them. His face wears a half-smile, and the rest of his angular features reveal the boldness and determination of a champion. Other racers may walk up to him for a little pre-race chat, but Roberts seldom loses his mask of concentration except for a quick confirmation of another rider's statement. He might say something to Carruthers once or twice, but generally nothing more. If you want to talk to Roberts you have to go to where he is standing. He could be Mohammed, *or* the mountain.

Of course, these psych-up games practiced by true professionals might or might not help you win Box Stock battles, but it doesn't hurt to have a psych-arsenal. So you should have your own War Department supply you with

weapons. One weapon I like to use is the Bogus-Time Detonating Bomb. It works like this: Another racer strolls over to your pit area after practice to do a little scouting. He wants to know how things are going in general, and more specifically, what your practice lap times are. Now, lap times actually are available to everyone at the track, provided that they can time every racer (or those they are concerned with). While you are practicing on the track, have a member of your pit take times on other riders. If your inquisitive competitor has no way of knowing your lap times, other than through the information you provide, he's vulnerable to a bombing attack.

There are two types of Bogus Bombs; the Delayed Action and Exploding types. The Exploding bomb is self-explanatory. He asks the question, then you blow him away with your fantastically quick (and true) lap time. His racer's ego is now scattered in tiny pieces throughout the pits, and more than likely, he'll shuffle off to the other racers to tell his tale. Then your bomb becomes verbal napalm and the pits blaze with reports of your prowess.

The Delayed Action Bomb perhaps is more fun to drop. You don't see the final results of it until after the race. It works this way: You know what a good lap time for the day should be, so you keep that in mind while opening the bomb-bay doors above your visiting racer-pal. When you've got him locked in your cross-hairs, add about a second or two to that time, to make it appear that you are slow. Then watch the expression on his face register something between glee and relief, because few racers really look forward to a head-to-head dice (although some won't admit to that). The bomb detonates the first couple of laps into the race, when your once-overconfident opponent watches you disappear into the distance in front of him.

In order to use the Delayed Action Bomb (or simply to keep other racers from knowing how good or bad your lap times are in practice), you might want to do a little "sandbagging." That is, go all-out in practice, but not in every turn on every lap. For instance, when you want to check final-drive gearing on the main straight, hold back through a couple of turns, so your overall lap time won't reveal your true speed. The same holds true while blitzing the turns; sandbag on the straights. It's all just another piece to your wonderful psych-puzzle.

Okay, you've done all you can. Now it's time to line up on the pre-grid for combat. Decide on what race-face approach you want, then stick to it. You don't have to be a real bad-ass, just remember to try to disrupt the concentration of your rivals. Even little things like remaining on the pre-grid until the last bike has rolled out for the warm-up lap can throw them a curve. Be cool and be confident.

As your final shot in this cold war, line up on the grid without acknowledging your opponents, especially your No. 1 adversary. If he wants to look over at you, and perhaps wish you luck, let him. At the most, nod his way, but be businesslike, and keep your eyes on the starter. Because the green flag signifies an end to the Psych War, and the beginning of the Big One.

—Dain Gingerelli

Continued

Slick Performer

SUZUKI CCI SUPER 2

Whether you're flying 'round the track or out cruisin' the trails, the last thing you want to think about is your oil.

So the first thing you need is CCI Super 2 Lubricant.

It can make the difference between carting home a trophy or pushing back to the pits. CCI's super-high film strength reduces heat and friction, prolonging engine life. CCI burns clean too, which helps prevent fouled plugs and sticky rings.

CCI Super 2 Lubricant. The 'slick performer' for your Suzuki Performer.

SUZUKI CCI SUPER 2

The Performer.

YOU'RE NEVER TOO OLD FOR BRACES

San Jose BMW Fork Braces

Improving on the perfection that is BMW is fine tuning beauty ... but we think a pair of San Jose BMW Fork Braces will make you smile too. The braces are designed to offer you that extra margin of stability in handling by keeping the lower sliders in perfect alignment with the fork assembly. By eliminating any flex in the front end you'll be able to maintain proper tracking around corners. Braces on perfection? At San Jose BMW we make great even better ... and that makes us smile.
(Fits all 1974 and later BMW's).

San Jose BMW Fork Braces $90.00/pair
in black electrostatic paint.
$109.00 polished & chromed or other electrostatic colors.

Name _____
Address _____ City _____
State _____ Zip _____ MC Model _____ MC Year _____
☐ Payment Encl. $_____ ☐ M/C ☐ VISA
Card # _____ Exp. Date _____

California residents add 6½% sales tax
Allow 2 weeks for check to clear our bank.
Send $2.00 for complete catalogue. Refunded with first catalogue order.

San Jose BMW Motorcycle Center
1886 W. San Carlos St.
San Jose, CA 95128
(408) 295-0205

The Bikers of America are taking on a tough fight. Muscular Dystrophy.

The fight starts with you. Muscular Dystrophy is a disease with no known cure. The way it is now, many kids who might grow up to ride—can't. But you have a chance to help change that, by joining in the "Bikers of America" fight against MD.

How? By participating in fund-raising rallies, runs, parades, ride-ins, and other events. And, if you can, attend the Harley-Davidson "Artistry in Iron," July 12-13 at the Los Angeles Sports Arena, and support the MDA effort there.

For details, see your local Harley-Davidson® dealer, or write "Bikers of America Fight MD," P. O. Box 653, Milwaukee, Wisc. 53201. We will send you information on how you or your club can get involved.

Come on out and join in the fight against MD. It's a good cause, a good way to do some positive public relations for motorcycling and, by the way, a good way to have some fun.

Bikers of America MDA MUSCULAR DYSTROPHY ASSOC BIKERS FIGHT MUSCULAR DYSTROPHY **United against MD.**

Pit Bits

• In motocross news, Suzuki's long-rumored single-shock bike appeared shortly before the opening of the GP season. Like Kawasaki's Uni-Trak, the shock is mounted vertically behind the engine and operates through a bell crank, though it looks more fragile than Kawasaki's setup. Kawasaki isn't afraid of imitation, though. It plans to stay one step ahead with a front disc brake being developed for Lackey's bike.

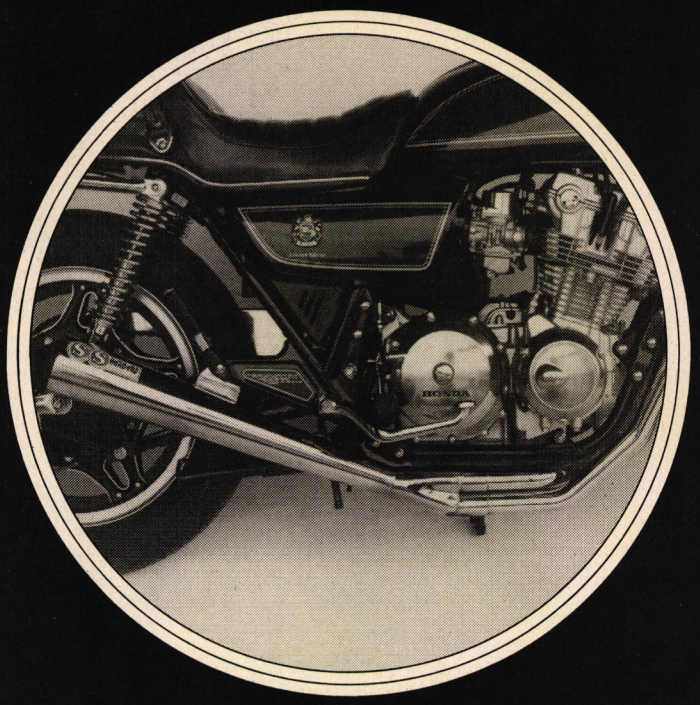
• Apparently there's agitation on some fronts to return the ISDT to America, especially since the involvement of the Japanese manufacturers in the enduro market could make the event a commercial success, unlike the 1974 Six Days in Massachusetts. Meanwhile, a world championship speedway final *will* be held in the U.S. in 1982, thanks to a decision of the FIM spring congress and the determination of California speedway promoter Harry Oxley. The emergence of the U.S. as a legitimate contender in the speedway world is reinforced by the recognition of Scott Autrey as the odds-on choice to prevail at the 1980 world championship final by an English bookmaking firm.

• The long-rumored Gilera twin-cylinder 125cc motocross bike finally saw action in practice for the first race of the GP championship where most of the other water-cooled bikes boiled their radiators dry. Though former 125 world champ Gaston Rahier is expected to use the tandem twin in his bike this year, he used a conventional Gilera single in the first event. The engine is a close copy of the Adriatica 250cc roadracing twin also designed by Jan Witteven that was supposed to be used by Randy Mamola in 250 GP roadracing events last year. The largest problem to date is getting the considerable power to the ground without looping the bike.

• Honda's problems with its NR500 four-stroke roadracer apparently haven't discouraged other believers in Otto-cycle racing engines. An Italian super-tuner is presently developing a 16-valve four-cylinder 500 and the name of Carlo Chiti, noted for his work for Ferrari and Alfa Romeo in Formula 1 car racing, has been connected to the engine's design.

• Elsewhere on the four-stroke front, a report from a member of the British federation to the FIM suggests that four-strokes be granted an equivalency formula of 1.34 or 1.4 for 500cc GP racing, allowing them a displacement advantage over the two-strokes and encouraging further four-stroke development. In addition, the FIM considered recommendations to reduce the displacement limit of Formula 1 to 750cc in 1983—perhaps in conjunction with a similar move by the AMA, what with the continued talk about the 750cc limit on Superbikes for 1981.

Continued



Honda 750

The exciting and popular Honda 750 is a great bike. However, S&S makes a great one *even greater*...with our new, smooth flowing 4 into 1 exhaust system.

Deep chrome plating adds the finishing touch to the sleek 2½"–4" megaphone muffler. Easy installation and comes complete with all hardware.

Order part #H-791 (illustrated) at $182.55 (California residents add 6% sales tax). Systems also available for most popular bikes. Send $2.00 for our latest catalog.

MIC S&S HEADERS MIA MEMBER

3565 Cadillac Ave. • Costa Mesa, CA 92626 • Dept. CG-780
(714) 546-8635

GENUINE
BMW PARTS
20% OFF CURRENT DEALER LIST
Price List upon request.
Parts shipped anywhere.

CAPITAL CYCLE Corporation PARTS REPAIRS

CAPITAL CYCLE CORPORATION
2328 Champlain St., N.W.
Washington, DC 20009
phone (202) 387-7360

STREET
CRUISING
HILL PULLING
TRAIL
COMPETITION
ALL-OUT
POWER for
HONDA – YAMAHA – KAWASAKI – SUZUKI
FOUR STROKES

HIGH PERFORMANCE FOUR STROKE SPECIALISTS SINCE 1964

Send $3. including your make, model, and year, for our Performance Fact Book Catalog.

P.O. BOX 1206 CG7
BEND, OR 97701
503-382-6395

We encourage Canadian direct sales
Call or write us for your needs
POWROLL MIC

Terry Vance agrees,

By designing ignition systems that offer dependability and high performance, we're giving entire generations of riders all the revolutions-per-minute they've been missing. And in just over five years, Martek has become the undisputed leader in electronic ignition systems that cover all popular bikes.

"Before Martek, I had to have a back-up system. Now I can count on one reliable system." **Terry Vance**, 3-time holder of drag racing's Pro Stock Number 1 Plate.

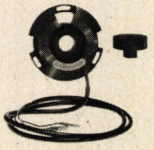
Pros like Terry Vance know that a dependable ignition can mean the difference between winning and losing. That's exactly why he switched to Martek. Riders also appreciate our 3-year "no-hassle" guarantee. It simply means that we back up our products, no questions asked.

We spark a lot of revolutions.

So if you're looking for more power and improved performance, check us out by sending 50¢ for our Martek catalog and decal:

Martek Products, 3609 W. MacArthur Blvd., Santa Ana, CA 92704.

MARTEK electronic ignition

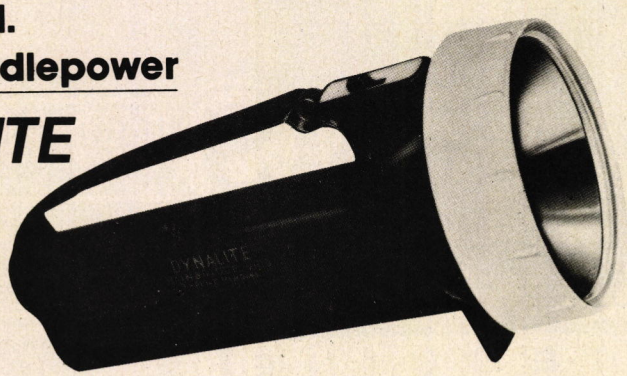


Easy-to-install Martek 440 Series ignition for 4-cylinder bikes: $119.95 (See our catalog for other models and prices).

The most POWERFUL six cell Flashlight in the world.

93,000 Candlepower

DYNALITE



$12.50

G.N.B. SPECIALTIES, DEPT. CG
BOX 165 EAST ROCKAWAY, N.Y. 11518
Please rush me the DYNALITE as fast as possible. Enclosed find $12.50 plus 1.50 postage and handling.

Name _____

Address _____

City _____ State _____ Zip _____

Canadian residents, funds payable by International money order or check drawn on U.S.A. bank.

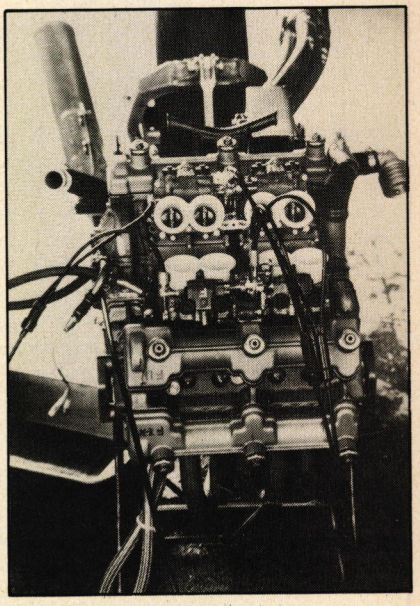
This is the world's most powerful flashlight—93,000 candlepower! This power is created by combining a PR-18 bulb with the most perfect parabolic reflector available. This perfect reflector concentrates the beam of light to one spot.

Indestructible The Marlex body is made by a revolutionary new process. It will not rust, dent, crack or peel. Square base prevents tipping and rolling. High tensil strength makes it virtually impossible to destroy. Fishermen, hunters and boaters like the built-in feature that makes the Dynalite float "heads up" in water—it's waterproof! Sturdy, sure-grip handle fits smoothly in your hand. Heavy grommets are made for the shoulder sling so you have your hands free.

Winners & Losers

Speed Wasn't Its Secret

Honda temporarily withdraws the NR500 from competition.

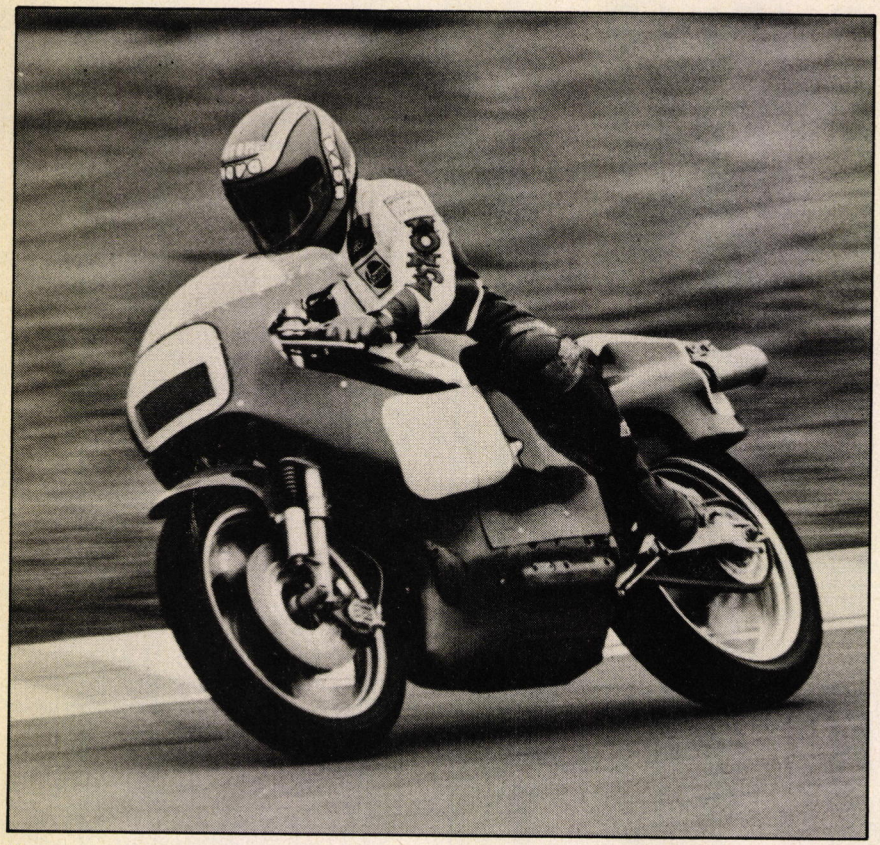


V-4 with four-stroke tricks

Wow, they coulda had a V-8!

• Information gathered from Honda as well as from other underground sources has shed new light on the design of the NR500 roadracer. But while the bike contains many interesting secrets, speed isn't one of them. Despite a concerted development program since the bike's star-crossed debut last season, the NR500 still hasn't attained competitive speeds. And so in response to this failing—as well as rumored demands from Honda's European dealer association that the bike be withdrawn until it's been proven competitive—the bike was scratched from the Austrian GP, a race that would have seen bikes from Honda, Kawasaki, Suzuki and Yamaha competing in the same class in a European GP for the first time in history.

According to a conversation with Gerald Davison, Honda's international director of racing, reported in the British publication Motor Cycle News, there's "absolutely no chance of us (Honda) abandoning the project . . . we will continue with the development of the four-stroke machine." It seems that the NR500—dubbed the Nearly Ready 500 by some members of the British press—will not see action before the second half of the season at the earliest, and has definitely been put on a back burner. Davison reports that the bike has three basic



Katayama during test session in Japan

Faster, but not fast enough.

Soichiro Honda and team in happier days

A $12 million rolling laboratory.

Continued

Learn Motorcycle Repair

★TRAIN AT HOME TO BE A

Motorcycle Mechanic

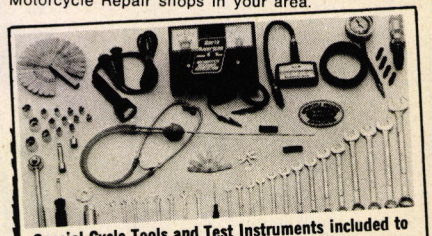
If you like to ride a cycle for fun . . . learn how to fix it for profit! Can you imagine a better way to earn your living whether you choose to work in a cycle shop for someone else or decide to start your own cycle repair business?

Now, thanks to North American, there's a fast, easy way to get training at home in your spare time. No need to quit school or your job. Experts show you step-by-step everything from minor tune-ups to major overhauls.

CYCLES ARE BIG BUSINESS . . . AND SO IS FIXING THEM!

There are more than 5 million cycles registered in the U.S. today. Plus an estimated million more dirt bikes. And they all need maintenance.

Graduation from this course does not insure that you will get a job. To find out how our graduates have done, send for our job placement record, and talk to Motorcycle Repair shops in your area.



Special Cycle Tools and Test Instruments included to start you fast! Professional tools plus your North American "know-how" help you become a skilled mechanic. We teach you how to use wrenches, sockets, impact screwdrivers, timing lights, electrical test instruments, compression gauges, vacuum gauges, degree wheels, soldering irons, ignition wrench sets, dial indicators and much, much more! We even include a set of special cycle tools and instruments to get you started fast! These are yours to use during your training . . . and yours to keep in your action-packed career as a motorcycle mechanic. Find out all about it now. Send for FREE color brochure — full information. No cost or obligation . . . now or ever! Rush coupon today.

You'll Be the Center of Attraction in Your Circle of Friends . . .

Be the envy of friends & neighbors as they flock around to watch you tear down and tune-up all kinds of motorcycles. And just think of the satisfaction in knowing you've got the best performing bike in town. Plus, you can make extra dollars fixing motorcycles for your friends and neighbors.

SEND FOR FREE INFORMATION

Get all the facts now . . . without obligation. Be among the first in your neighborhood to cash in on the profits in motorcycle repair. ***No cost or obligation. No salesman will call. Mail Coupon Now!***

T38

Careers by Home-Study

NORTH AMERICAN SCHOOL OF MOTORCYCLE REPAIR
4500 Campus Dr., Dept. EM060, Newport Beach, CA 92660

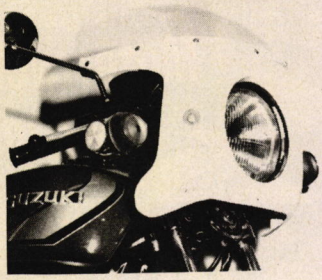
Rush FREE color brochure and full information on how I can learn Motorcycle Repair at home in spare time. Check here for GI or VA ☐.

NAME _____ AGE ____

ADDRESS _____

CITY _____

STATE _____ ZIP _____



OCELOT ¼ FAIRING

Universal Top Fairing fits most motorcycles. Comes in white or or black and choice of clear or smoke or blue shield. Fairing made of ABS plastic which can be painted to match any motorcycle or is attractive the way it is. Universal mounting brackets are included. This fairing is to be used with low cafe bars.

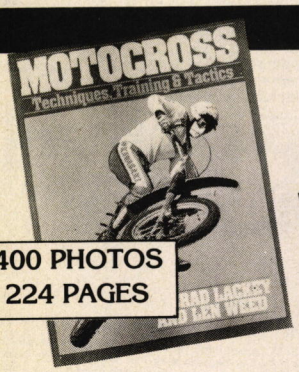
WOW! LOOK AT THE PRICE!

$59.95

Send $2.00 for complete motorcycle accessory catalog.

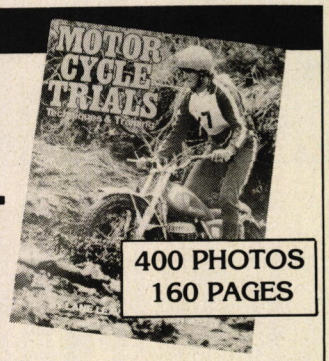
Prices subject to change without notice.

Ocelot Products
P.O. Box 6304
San Bernardino, California 92412



400 PHOTOS
224 PAGES

TWO BOOKS YOU CAN'T PASS UP!



400 PHOTOS
160 PAGES

...one of the finest "how-to" books ever published...
Cycle Guide Magazine

Simply put, it's great...a motocrosser's delight...
Cycle News

...a priceless instruction manual for trials riders, motocrossers, enduro riders and off-road playbikers too...
Cycle Guide Magazine

...just about THE definitive book on how to ride trials...
Trials and Motocross News (England)

MOTOCROSS: $9.95 plus $1.05 postage. California residents add 60¢. **MOTOR CYCLE TRIALS:** $7.95 plus $1.05 postage. California residents add 48¢. Foreign orders: In U.S. $ plus $2.00 postage for Canada, Mexico and surface mail overseas. Overseas air rates available on request.

ORDER FROM:
Clean Sheet Enterprises
P.O. Box 6040
Compton, California 90224

USED PARTS HONDA

YAMAHA Kawasaki SUZUKI

CYCLE SALVAGE INC.
172 Frontage Rd.
Dept. CG
West Haven, Conn. 06516
CALL (203) 933-1609

HIGHEST PERFORMANCE

QUALITY

TURBOCHARGER

Unequaled Total Performance
Super Chrome & Fit—Most Advanced Engineering; True Bolt-on Kits—Precision Construction; Many Exclusives, Incl. Patented BPM Wastegate
BLAKE ENTERPRISES, INC.
Rt. 1 Box 403, Muskogee, OK 74401
918/683-2967
Most 4 Cyl Incl. GL1000 & Yamaha 750-3
Now Shipping Suzuki 1100 & 750 16 Valve Turbos.

QUALITY

SUPERIOR ENGINEERING

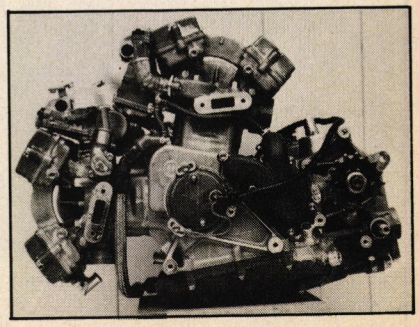
problems: handling, reliability and performance—which makes you wonder what additional problems a racing bike could possibly have.

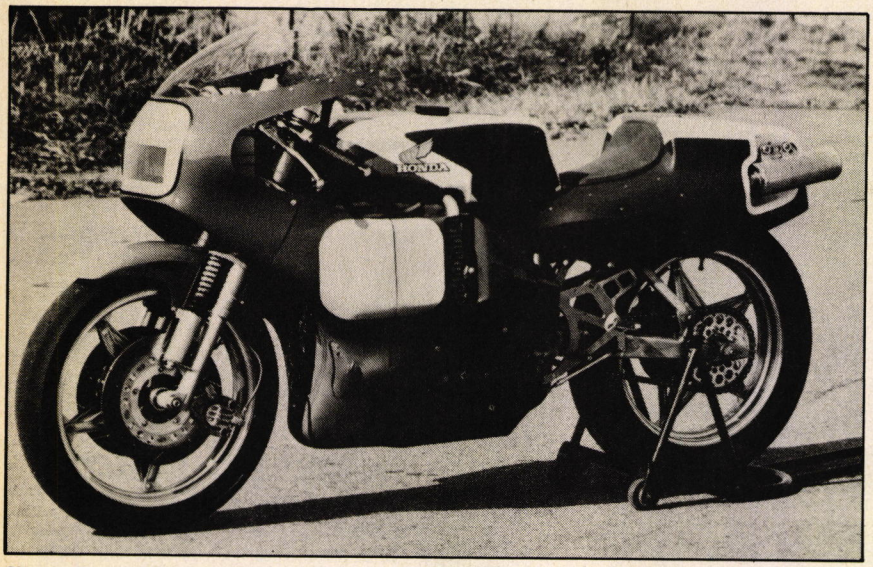
Despite its withdrawal from competition, the NR500 design still holds much that is of interest. As *Cycle Guide* was the first to report, the V-4 engine does indeed resemble a shrunken V-8 with eight valves per cylinder and twin connecting rods (although there's provision for three) for each piston. Further information reveals that the pistons are shaped like a running track, straight on the sides and curved at the ends, with a length of 93.2 mm, a width of 41mm and a stroke of 36mm. The pistons carry two rings and an oil scraper ring. Below the oil scraper the pistons have been comprehensively drilled to relieve hydraulic build-up between piston and cylinder wall that can limit piston speed and acceleration.

The combustion chamber follows Honda's Pentroof design, with 20mm intake valves and 18mm exhaust valves. The included angle between valves is 55 degrees. Throughout the engine the castings are very thin, and the interior of the piston even has an unusual cast support for the crown. There's also speculation that the valves, cylinder head, piston and cylinder walls are sprayed with a ceramic coating to protect the engine from the heat of the 120 horsepower produced by the engine at 20,000 rpm.

Since the bike's initial outings, the monocoque chassis and multi-piece fairing have undergone much development. A one-piece fairing has been fitted and a tubular frame built by English frame designer Ron Williams has been adapted to the numerous water and oil radiators. The 16-inch wheels designed to minimize rolling resistance have been supplanted by 18-inchers, both to solve handling problems and to take advantage of a wider selection of tires. The trailing-axle fork has been replaced by a leading-axle unit, and the brake calipers also have been changed from a leading position to a trailing one. The fork still combines external springs with large diameter fork tubes to carefully control damping, but the fork tubes also carry air caps now to alter the progression of the spring rate.

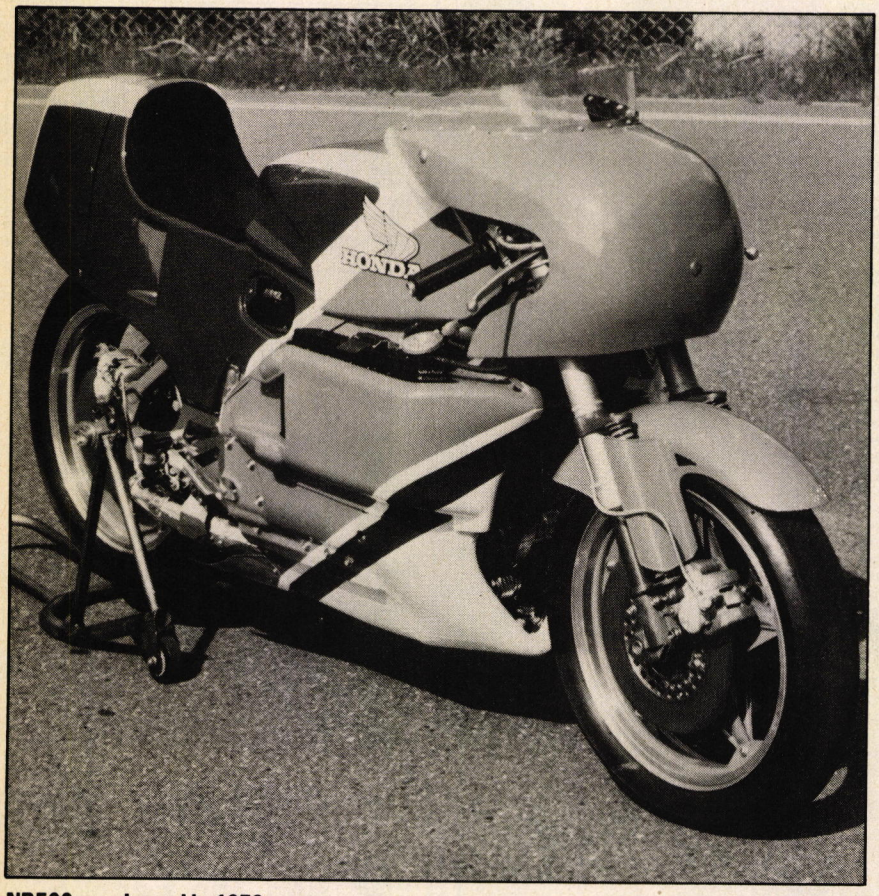
This reappraisal of the NR500 came after an agonizing winter of testing in which factory riders Takazumi Katayama and Mick





Nearly Ready 500 in 1980 garb

Bigger wheels, revised fork and frame.



NR500 as released in 1979

Tricky fairing, 16-inch wheels.

Grant suffered broken bones in crashes and stand-in rider Rod Haslam also crashed. Apparently, the bike still is three seconds outside the 2:16 lap record at Honda's Suzuka circuit.

As is Honda's custom, the men who designed the NR500 had theoretical backgrounds instead of racing experience, and that has insured that the development of the NR500 has not been easy. Yet it ironically means the NR500 will live on after the RG500, KR500 and YZR500 are history, for future Honda street bikes—as soon as 1982 or 1983, in fact—will be based upon the lessons learned by those involved in the NR500 project. —*Michael Jordan*

Simichrome, No. 1 all-metal polish in the cycle industry. Blueaway, finest product known for removing high temperature discoloration on pipes.

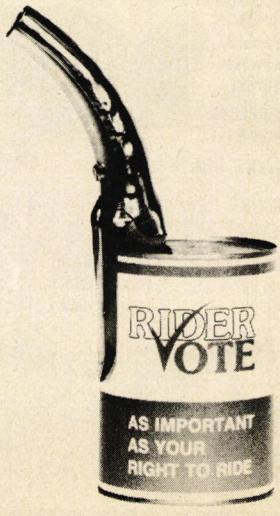
Simichrome & blueaway

COMPETITION CHEMICALS
Dept. 307 P O Box 141 • Iowa Falls, Iowa 50126

CARL'S HONDA
Div. of Carl's Motorcycle Sales Inc.
Over 50 Years of Service
24 HOUR COMPUTERIZED
PARTS AND ACCESSORIES SERVICE
DEALER INQUIRIES INVITED
TOLL FREE
9920 Farragut Rd.
Bklyn, N.Y. 11236
800-221-7508
N.Y. State
(212) 257-0230

HODAKA PARTS ARE AVAILABLE!
Over 5 million dollar inventory! Contact your local **HODAKA** dealer or Contact us for the name of the dealer nearest you.
WHEELS OF TIME, INC.
7-A Island Rte., Dept. CG, Lock Haven, PA. 17745
717-7489531

Voting in a democracy is like changing the oil in your motorcycle.
If you don't do it, you've got no one else to blame.



American Motorcyclist Association,
P.O. Box 141, Westerville, Ohio 43081.

ROAD RACERS — CAFE RACERS
RD350/400, Honda, Kaw, Suz & others

Road Race/Cafe fairings, seats, tanks, pipes, tires, RR boots & gloves, Special tools & hardware, racing brakes and many other hard to find items.

New 1980 Catalog $2.00

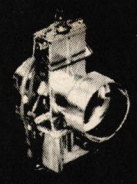
RACERS SUPPLY, Dept. CG
6959 Van Nuys Blvd., VN, CA. 91405

eastern cycle salvage, inc
RECYCLE CYCLES
USED PARTS
All makes and models. Save up to 50%
Many early and late Japanese & obsolete British parts in stock. **1 DAY SERVICE**
VISA, MASTERCHARGE OR COD
WRITE: Dept. M, 87 PARK ST.
BEVERLY, MASS. 01915 (617) 922-3707

Ossa Parts
Fast Mail Order Service
GRANNY'S CYCLE SHOP
1115 1155 Main Ave.
Durango, Colorado 81301
Kaw 303-247-8111 Suz

BUY FACTORY DIRECT SAVE!
TROPHIES • AWARDS • PLAQUES
SPECIALTY ITEMS
Write for FREE CATALOG
Trophyland USA Inc.
Dept. CG 7001 W. 20th Avenue, P.O. Box 4606
Hialeah, Florida 33014

Discount Prices!



WISECO forged and cast pistons, rings, pins. S&W valve springs, carbs, shocks. BELL helmets. DIAMOND chains. JARDINE, RACER 1, M.A.C. exhausts. Guaranteed. Complete catalog free . 9534 CG Atlantic, South Gate, CA 90280 213-567-0409

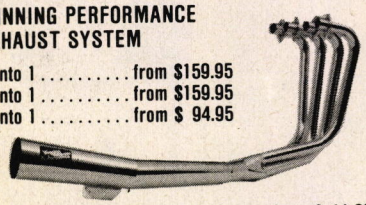
CYCLEMOTIVE

SAVE MONEY ON BRAND NAME ACCESSORIES FOR:
Honda
Yamaha
Kawasaki
Suzuki

SATISFACTION GUARANTEED

TOURING SEATS..... FROM $104.95

WINNING PERFORMANCE EXHAUST SYSTEM



4 into 1 ..... from $159.95
3 into 1 ..... from $159.95
2 into 1 ..... from $ 94.95

GOKI "FORK KITS" ..... from $ 11.95
SADDLE BAG ..... from $175.95
TRAVEL TRUNK ..... from $ 79.95
FAIRING Handlebar Mount ..... from $114.95
Frame Mount ..... from $249.95

JET DISTRIBUTING
20057 Roscoe Blvd., Winnetka, CA 91306
Phone: (213) 341-8787

Send $2.00 for catalog • Visa, M/C or M/order • Ca. res. add 6% tax.

ADVERTISERS

Advanced Cycle Prod. 30
Allyn's Honda/Kawasaki 134
Alphabet's Custom West 112
American Honda Motor Co., Inc. 12–13
American M/C Institute 115
American M/C Schools 113
Tom Andersen 116
BMW-Triumph of Okla. City 134
Barnett Tool & Eng. 28
Bel-Ray Co., Inc. 76
Bikoni Ltd. 109
Blake Ent. 132
Brown's Plating Service, Inc. 15
CM Performance 114
Capital Cycle Corp. 129
Carl's Honda 133
Castre Inc. 78
Clean Sheet Ent. 132
Coca-Cola Superbowl of Motocross 119
Competition Chemicals 133
Crawford House, Inc. 87
Custom Dressers 126
Custom Trikes By Stires 31
Cycle Rider of Calif. 67
Cycle Salvage, Inc. 132
Cycle Sound 124
Cycle Sports & Service 134
Cyclemotive 134
Cyclone Competition 126
Derale Oil Coolers 27
Dualock 125
Dunlop Tire 34–35
Eastern Cycle Salvage, Inc. 134
Excalibur Industries, Inc. 111
Expert Cycle, Inc. 134
Flowpower Systems 26
G.N.B. Specialties 130
Graham's Sheet Metal 14
Granny's Cycle Shop 134
Highway Drydock Corp. 17
Jim Hunter M/C Repair 134
Jardine Header Co. 14
Jet Dist. 134
KBL Corp. 32
Kal-Gard 33
Kustomold 28
Lee's Rider & Cycle Acc. 125
M.A.P. Cycle Ent. 126
M & M Racing 54
Martek Prod., Inc. 130
Milo Systems 32
Moores Cycle Supply 134
Motorcycle Clubamerica 9
Motorcycle Mechanics Institute 61
NEP Sales, Inc. 23
Neotech (Grab On) 15
Nippondenso of LA, Inc. 11
No. Amer. School of M/C Repair 131
Ocelot Prod. 132
Olympic Trophy 108
PJ1 Corp. 66
Parts Unltd. 32
Phantom Rider 4
Pioneer 110
Powroll Perf. Prod., Inc. 129
R.C. Eng. ..... Cov. 2–3
R.J. Reynolds (Winston) ..... Cov. 3
Racecrafters Int'l Inc. 29
Racers Supply 134
Rister Industries 36
S & S Headers 129
S & W Eng. Prod. 63
Safety "4" Novelty Co. 108
San Jose BMW M/C Ctr. 127
Sekon Int'l Corp. of America 120–121, 123
Simpson Sports 114
Brian Slark Classic M/C'S 134
Stadium Events (Philadelphia Supercross) 77
Stick-Em Up 28
Stop & Lock Co. 64
Summit Tool Co. 16
TR-3 Chemical Corp. 68–69
Team Performance 24
Trophyland USA, Inc. 134
Tumbleweed Ent. 116
U.S. Suzuki Motor Corp. 127
Union M/C Salvage 134
Vetter ..... Cov. 4
Web-Cam 108
Wheels of Time, Inc. 133
White Bros. 16
Winning Perf. Prod. 61
Yamaha Motorcycles 7, 55–59
Yamaha (YPDI) 65
Yankee Cycle Corp. 31
Yoshimura R & D of America 31

Southwest's Largest
UNION MOTORCYCLE SALVAGE
Millions of Parts—All Makes—Old—New—Hard To Find—All ½ Price or Less
No Catalogs—Just Tons of Parts
1-713-643-1659 or 643-1012
6345 Long Dr. Houston, Tex. 77087

BSA BMW **TRIUMPH** NORTON USA ONLY
PARTS SHIPPED NATIONWIDE DAILY
NEW— USED — RECONDITIONED
(No catalogs–just tons of parts)
BMW-TRIUMPH OF OKLA. CITY
1925 N. MACARTHUR (405) 787-3440
Okla. City, Okla. 73127

KAWASAKI PARTS
PHONE: (412) 423-4553
One of the largest parts and accessory stocks in the U.S.A.
SPECIALIZING IN THE HARD TO GET PARTS
Same Day Cylinder Boring
Same Day Mail Orders
STATE: Model, Year Frame, & Eng. Nos.
CYCLE SPORTS
R.D. 1 Box 151A
Mt. Pleasant, Pa. 15666

Manufactures and Distributors of Quality Motorcycle Parts.....Specializing in Front Ends for 12 Years.....
FORK TUBES FORK SEALS TWEEK BARS
20,000 pair of Forks in stock. For 90cc to 1300cc. UNDER – STOCK LENGTH – EXTENDED FORKS. Fork Seals for Street and Dirt Bikes. Check out our Bushings, Cap Nuts, Cables and More... Order by the Year, Make, Model and Length. Free Brochure.
NEW!!! Digital Speedometer!!!
EXPERT CYCLE, INC. DEPT. 30 Master Charge or Visa
11761 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605 213-982-5732

Norton
SPOKEN HERE
VISA MASTERCHARGE WELCOME
COMPLETE STOCK OF *GENUINE* NORTON PARTS & ACCESSORIES AVAILABLE. WE SHIP DAILY— ANYWHERE.
BRIAN SLARK CLASSIC MOTORCYCLES
785 WEST 17TH STREET, BLDG. B
COSTA MESA, CA 92627 **714-642-8411**

BSA & TRIUMPH PARTS—NEW & USED
SHIPPED ANYWHERE
Specializing in BSA & Triumph Repairs
Jim Hunter Motorcycle Repair
1140 S. Cypress, Unit A
La Habra, CA 90631
(714) 738-1503

LARGEST TOLL-FREE PARTS AND ACCESSORIES SERVICE
CALL TOLL-FREE
800-423-5662
HONDA & KAWASAKI PARTS • VISA • MASTER CHARGE ACCEPTED • ORDERS FILLED IN 24 HRS.
Allyn's Honda/Kawasaki 958 N. Maclay San Fernando, Calif

TRIUMPH • BSA Parts
Nation Wide Mail Order
MOORES CYCLE SUPPLY
282 PARK ROAD-W. HARTFORD, CT. 06119
PHONE (203) 523-8743

© 1980 R. J. Reynolds Tobacco Co.

When your taste grows up, Winston out-tastes them all.

Only Winston's Sun-Rich™ Blend of the choicest, richest tobaccos tastes this full and satisfying.

Winston after Winston.

KING: 16 mg. "tar", 1.1 mg. nicotine,
BOX: 17 mg. "tar", 1.2 mg. nicotine, av. per cigarette by FTC method.

Soft Pack and Box

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

Everytime you ride behind one of our fairings, you enter the *Vetter comfort zone.* We call this pocket of still air *fairing innerspace.* And now with the help of Vetter accessories, you can add a little *innerspace magic* to your *own* road-riding experience.

Transform Your Cockpit Into A Touring Control Center With Vetter Accessories.

Vetter Sound.™ Specifically designed for Windjammer and Vindicator fairings, Vetter Sound™ accepts virtually any car radio, tape deck or CB unit. It's manufactured from extra strong ABS plastic and textured to match our fairing interiors. Dual speakers with 32.6 square inches of *Distributive Surface Area* (DSA) handle up to 20 watts of power — for full-bodied stereo sound.

Specially coated for ultraviolet protection, Vetter Sound also features an easy-to-detach, 13-inch *rubber* antenna — *minimally affected by vibration.*

Fair Warning™ ***Radar Detector.*** Designed for motorcycle use, Fair Warning can withstand weather and vibration, and delivers *advance* warning of police radar (X and K bands, plus new advanced *pulsed K* radar).

A modified locking tonneau allows low-profile mounting inside the right fairing pocket. An alarm horn and flashing red light detect radar surveillance.

Fair Warning has a three-position switch for city, off and highway use. Contained within a lightweight aluminum housing, Fair Warning can also be used in your car. A limited six-month Vetter warranty is included. *Not legal in certain states; check appropriate laws governing use.*

Fair Warning Radar Detector mounts easily inside right fairing pocket.

For more information on all Vetter accessories, visit your local dealer or write: Vetter Corporation, Rantoul, Illinois 61866.

Vetter

THE FINEST. ALWAYS WILL BE.

© 1980 Vetter Corporation AMA MIC

INNERSPACE MAGIC